



BADGER STATE

# SMOKE SIGNALS

*For Radio Amateurs • By Radio Amateurs*

Published Monthly Since 1969 • Our 29th Year  
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**MERRY CHRISTMAS  
AND  
HAPPY NEW YEAR**



**From the staff of  
Badger State Smoke Signals**

**Ken Ebner, K9EN, Chairman/Publisher**

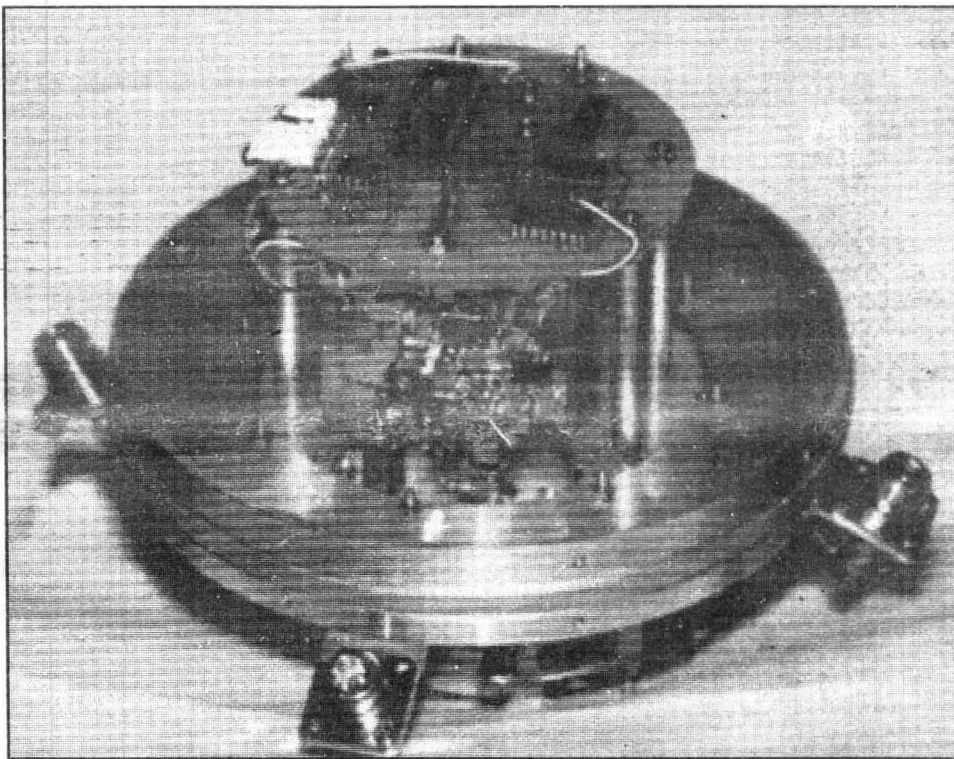
**Don Evenson, K9JYX, Editorial Board**

**Dave Knaus, WA9POV, Editorial Board**

**Jim Romelfanger, K9ZZ, Editor**

Thank you to all of the volunteer writers, photographers, and cartoonists whose ideas and work have graced our pages in 1998. Thanks, too, to our participating clubs. We look forward to working with you all again in 1999.

**A little bird makes a lot  
of happy noise**



This photo is of the "innards" of ham radio's newest satellite, Sputnik 41/RS-18. It is sponsored by the l'Aero club de france.

Sputnik 41/RS-18 was only the second satellite to be hand-launched into Earth orbit.

The newest ham radio "bird" was built by AMSAT-France, and follows the very successful Sputnik 40, hand launched during a Mir EVA by cosmonaut Pavel Vinogradov November 7, 1997. This year's satellite was taken to Mir by a Progress supply ship which lifted off from the Baikonur Cosmodrome October 27. It arrived at Mir October 27, and was tossed into its own orbit November 10.

Construction of the satellite began this past summer, with prototype construction by Gerard Auvray, F6FAO. It was decided to do something different than last year's Sputnik model did, which was a simple series of beeps. This year's new and improved model has six recorded voice announcements, two in French, two in Russian, and two in English. The announcements occur every 15 seconds, with carrier off between announcements. There

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Edited by Kenneth A. Ebnetter, K9EN, 822 Wauona Trail, Portage, WI 53901 • kebnetter@palacenet.net

## Swapfests and Other Social Events

**SATURDAY, JANUARY 9, 1999.** West Allis Radio Amateur Club, 27th annual Midwinter Swapfest, Waukesha County Expo Center Forum, Waukesha, WI. Contact: WARAC, PO Box 1072, Milwaukee, WI 53201-1072.

**TUESDAY, FEBRUARY 23, 1999.** Red Cedar Repeater Association Auction. American Legion Post 53, 634 Water Street, Eau Claire, WI. Contact: Steve Hart, KA9OMC, E616 810th Ave., Knapp, WI 54749. (715) 665-2374.

**SUNDAY, MARCH 7, 1999.** SEWFARS Swapfest, Waukesha, WI. Contact: SEWFARS Inc., PO Box 102, Delafield, WI 53018. (414) 835-7035

**SUNDAY, MARCH 21, 1999.** Tri County Hamfest 1999 at Jefferson County Fairgrounds, Jefferson WI. Contact TCARC, 711 East St., Fort Atkinson, WI 53538. (920) 563-6502, e-mail tricountyarc@globaldialog.com

**SUNDAY, APRIL 11, 1999.** MARA Swapfest, Madison, WI. Middleton Conference Center. (Same place as last year, but new name.) Contact: MARA, PO Box 8890, Madison, WI 53708-8890.

**SATURDAY, MAY 1, 1999.** The Ozaukee Radio Club will sponsor its twenty first Annual Cedarburg Swapfest at the Circle-B Recreation Center, Cedarburg, WI. Contact Joe Holly, ORC Swapfest Chairman, 1702 Holly Lane, Grafton, WI 53024. (414) 377-2137 or Skip Douglas at (414) 284-3271.

**SATURDAY, MAY 8, 1999.** The Lakeshore Hamfest at Manitowoc County Expo, Manitowoc, WI. Contact: Glen, AA9MT (920) 684-7096 or Red, N9GHE (920) 684-9097. ManCoRad Radio Club, PO Box 204, Manitowoc, WI 54221-0204.

**SUNDAY, JUNE 6, 1999.** The Central Wisconsin Radio Amateurs, 22nd annual Swapfest and Auction at Junction City, WI. (Stevens Point area.) Contact: John Feltz, W9JN, 973 E. First St., Junction City, WI 54443-9614. (715) 457-2506. e-mail: jfw9jn@tznnet.com

## Badger State Smoke Signals

*Amateur Radio  
Education and Information*

**CHAIRMAN:** Kenneth A. Ebnetter, K9EN, 822 Wauona Trail, Portage, WI 53901. Telephone (808) 742-3560. kebnetter@palacenet.net

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**TREASURER:** Kenneth A. Ebnetter, K9EN, 822 Wauona Trail, Portage WI 53901.

**EDITORIAL BOARD:** Ken Ebnetter, K9EN; Dave Knaus, WA9POV; Don Evenson, K9JYX.

### Subscriptions

1 year	(12 issues)	\$13.95
2 years	(24 issues - save \$1.95)	\$25.95
3 years	(36 issues - save \$3.80)	\$37.95

Subscription form is on page 5. Special club package reduced rates are available. For information, contact Ken Ebnetter, K9EN.

### When to Send It

The closing date for each issue is the first of the month for the next month's issue. For example, the closing date for the June issue is May 1. The only exception is for participating clubs' minutes. Participating clubs are requested to send their material no later than FIVE DAYS after the club's meeting. For example, if a club meets on the 4th of the month, the material should be sent no later than

**SATURDAY, JULY 10, 1999.** South Milwaukee Amateur Radio Club Swapfest, American Legion Park, Shepard Avenue, South Milwaukee, WI. Contact South Milwaukee ARC, P.O. Box 102, South Milwaukee, WI 53172. (414) 762-3235.

**SUNDAY, JULY 25, 1999.** Racine, WI. The Racine Megacycle Club, Amateur Radio & Computer Show. Contact: e-mail: w9udu@wi.net  
voice mail: (414) 552-6RMC  
web page: <http://www2.wi.net/~hamradio/>

**SATURDAY, AUGUST 14, 1999.** Circus City Swapfest, Baraboo, WI. Contact: Steve Schulze, N9UDO, (608) 356-2313/356-4777 or Bill Klinkner, N9KXX, (608) 643-6908/643-6453. e-mail: <http://www.thelorax.com/~ssschulze/hamfest.htm>

See also the back page and flyer ads for additional information on many of these events.

Let us know of your dates as soon as you know them. We will list them and perhaps help avoid conflicts with other events.

As a service to our readers, this section of Badger State Smoke Signals is available without charge to list your upcoming Swapfest, Hamfest, dinner, picnic, party or other event of interest to Radio Amateurs in Wisconsin and nearby areas. Send information on your event to Kenneth A. Ebnetter, K9EN, 822 Wauona Trail, Portage, WI 53901. In addition, space is available at attractive rates on our advertising pages. For information on rates and requirements for our advertising pages, please contact K9ZZ or K9EN.



## CLUB MEETINGS

Due to space limitations, we cannot always carry the full listing of Wisconsin and area club meetings. Please see the September 1998 meetings column for the latest complete listing. The following changes have been reported to BSSS since that listing.

**EAU CLAIRE AMATEUR RADIO CLUB**  
2nd Tuesday - 7:30 PM Eau Claire, Parks & Recreation.

the 9th of that month. This material is to be sent to the Editor.

### Where to Send It

Address changes and corrections, and exchange papers should be sent to Ken Ebnetter.

Editorial material, photographs, and feature articles should be sent to Jim Romelfanger.

Inquiries about advertising should be directed to Ken Ebnetter.

Club, swapfest, and Test Point information should be sent to Ken Ebnetter.

Swapfest ADS should be sent to Jim Romelfanger NO LATER THAN EIGHT WEEKS BEFORE THE EVENT'S DATE.

Subscriptions should be sent, with check or money order, to Ken Ebnetter.

### Conditions for Reprinting or BBS Posting Material from Badger State Smoke Signals

Permission is hereby granted to reprint articles or posting articles on radio or telephone bulletin boards from *Badger State Smoke Signals*, providing credit is given to the original author, publication in which the article first appeared, and to *Badger State Smoke Signals*. THIS CREDIT IS MANDATORY, AND NO MATERIAL MAY BE PRINTED OR POSTED UNLESS IT IS GIVEN.

This newspaper is produced by volunteer radio amateurs, and is non-profit. This newspaper is mailed from Portage, WI 53901.

*Badger State Smoke Signals* is incorporated as a Wisconsin non-stock, non-for-profit organization.

### Editorial Disclaimer

The opinions expressed in editorials, guest editorials, columns, articles, and letters from readers are the opinions of the authors only, and do not, unless otherwise stated, express or imply endorsement by *Badger State Smoke Signals*, or by any other individual or organization.

1300 First Ave, Eau Claire, WI 54703. All hams and guests welcome. Wide area coverage repeater KB9RRA 146.910 Mhz. For more info: Jim Staatz KC9MV 715-838-9108 kg9mv@ecol.net

### WAUPACA AMATEUR RADIO CLUB

"CQ First Tue." - A social gathering and dutch treat luncheon at the King's Table in King, WI, on Highway QQ just south of highways 10 and 54 on the west side of Waupaca. Gather at 11:00 - 11:30. Order at noon. Club business transacted.

"CQ Third Fri." A social gathering and dutch treat dinner, semi-formal, "OM & XYL" at one of the better supper clubs in the area. Check Waupaca 147.390 nets at 8:00 a.m. or 8:50 p.m. for that month's meeting place.

### QCWA - WISCONSIN CHAPTER #55

Contact Erwin Froelich, W9RZW, Treasurer, W3449 Badger Road, Pine River WI 54965. For information about meeting dates or joining QCWA Chapter #55. The Wisconsin Chapter holds Spring and Fall dinner meetings on the first Saturday of June and October.

### RADIO AMATEURS OF WISCONSIN (R.A.W.) OSHKOSH, WI

R.A.W. is a family oriented club, in which most of its activities revolve around family doings and outings. Meetings are on the 3rd saturday of each month at various locations. If you are a Ham or are interested in Ham radio, contact Mark Miller, N9WT, (920) 231-1662 or Jeff Oppermann N9OSB, (920) 233-7961. We are always looking for good people to join us.

## The Test Point



*Amateur Radio Examination Locations  
and Schedules in the Wisconsin Area*

December 05, 1998	Hudson, WI
December 05, 1998	Stevens Point, WI
December 05, 1998	Oshkosh (Omro), WI
December 05, 1998	Racine, WI
December 05, 1998	Pewaukee WI
December 05, 1998	St. Paul, MN
December 10, 1998	Apple Valley, MN
December 12, 1998	Blaine, MN
December 12, 1998	Madison, WI
December 12, 1998	Oak Creek, WI (MRAC)
December 15, 1998	Eden Prairie, MN
December 19, 1998	Cottage Grove, MN
December 19, 1998	Loves Park, IL
December 19, 1998	Milwaukee, WI (BE)
December 19, 1998	Oshkosh, WI (R.A.W.)
December 26, 1998	Bloomington, MN
January 02, 1999	Oshkosh (Omro), WI
January 02, 1999	St. Paul, MN
January 09, 1999	Blaine, MN
January 09, 1999	Eau Claire, WI
January 09, 1999	Madison, WI
January 09, 1999	Oak Creek, WI (MRAC)
January 12, 1999	Apple Valley, MN
January 16, 1999	Cottage Grove, MN
January 16, 1999	Loves Park, IL
January 16, 1999	Milwaukee, WI (BE)
January 18, 1999	Eden Prairie, MN
January 23, 1999	Appleton, WI
January 25, 1999	Bloomington, MN
January 30, 1999	Milwaukee, WI (MRAC)
January 30, 1999	Tomahawk, WI
February 06, 1999	Oshkosh (Omro), WI
February 06, 1999	Racine, WI
February 06, 1999	St. Paul, MN
February 06, 1999	Onalaska, WI
February 11, 1999	Apple Valley, MN
February 13, 1999	Blaine, MN
February 13, 1999	Madison, WI
February 13, 1999	Oak Creek, WI (MRAC)
February 16, 1999	Eden Prairie, MN
February 20, 1999	Oshkosh, WI (R.A.W.)
February 20, 1999	Cottage Grove, MN
February 20, 1999	Loves Park, IL
February 20, 1999	Milwaukee, WI (BE)
February 20, 1999	Milwaukee, WI (BE)
February 27, 1999	Bloomington, MN
February 27, 1999	Milwaukee, WI (MRAC)
February 27, 1999	Tomahawk, WI
March 06, 1999	Oshkosh (Omro), WI

March 06, 1999 Racine, WI  
 March 06, 1999 St. Paul, MN  
 March 11, 1999 Apple Valley, MN  
 March 13, 1999 Blaine, MN  
 March 13, 1999 Madison, WI  
 March 13, 1999 Oak Creek, WI (MRAC)  
 March 16, 1999 Eden Prairie, MN  
 March 20, 1999 Milwaukee, WI (BE)  
 March 20, 1999 Cottage Grove, MN  
 March 20, 1999 Loves Park, IL  
 March 20, 1999 Milwaukee, WI (BE)  
 March 27, 1999 Bloomington, MN  
 March 27, 1999 Menomonie, WI  
 March 27, 1999 Milwaukee, WI (MRAC)  
 March 27, 1999 Tomahawk, WI  
 April 15, 1999 Milwaukee, WI (BE)  
 May 08, 1999 Onalaska, WI  
 May 22, 1999 Oshkosh, WI (R.A.W.)  
 August 21, 1999 Oshkosh, WI (R.A.W.)  
 September 11, 1999 Onalaska, WI  
 October 16, 1999 Oshkosh, WI (R.A.W.)  
 November 06, 1999 Menomonie, WI  
 November 06, 1999 Onalaska, WI  
 December 18, 1999 Oshkosh, WI (R.A.W.)  
 Monthly, 1st Sat. Racine, WI  
 (except January, July & August)  
 Monthly, 1st Sat. Oshkosh (Omro), WI  
 Monthly, 1st Sat. St. Paul, MN  
 Monthly, 2nd Thu. Apple Valley, MN  
 Monthly, 2nd Sat. Oak Creek, WI (MRAC)  
 Monthly, 2nd Sat. Madison, WI  
 Monthly, 2nd Sat. Blaine, MN  
 Monthly, 3rd Tue. Eden Prairie, MN  
 Monthly, 3rd Sat. Milwaukee, WI (BE)  
 Monthly, 3rd Sat. Loves Park, IL  
 Monthly, 3rd Sat. Cottage Grove, MN  
 Monthly, 4th Sat. Bloomington, MN  
 Monthly, Last Sat. Milwaukee, WI (MRAC)  
 (except December)  
 Monthly, Last Sat. Tomahawk, WI  
 (January thru October only)  
 Quarterly Eau Claire, WI  
 (Second Saturday Jan., Apr., & Oct.)  
 plus annual summer hamfest.)

Many Swapfests/Hamfests offer exam sessions. If not shown above contact the sponsoring club in the Swapfest column on page 2.

The FCC now requires applicants to show their ORIGINAL AMATEUR LICENSE to the VEC. A copy of your license must be attached to your FCC form 610. You will also be required to have a photo ID, or other acceptable identification.

#### GENERAL RULES

##### FOR MOST EXAMINATIONS:

Be sure to check with sponsors in the event there are changes and/or errors in the dates or information given.

Some examinations require filing an FCC Form 610 and advance registration at least 30 days before the exam date. (Some VECs permit walk-ins. Check with sponsor.)

To register, you must first secure a copy of the current FCC Form 610 and fill it out completely (AND CORRECTLY). Get your form from an FCC Field Office, the ARRL. Send a 32c/SASE if you request one from the ARRL. In most cases, forms can also be obtained from the sponsoring group.

ARRL/VEC examinations require a check for \$6.35 (\$6.45 after January 1, 1999) payable to "ARRL/VEC".

The FCC now requires applicants to show their ORIGINAL AMATEUR LICENSE or CSCE to the VEC. You must also have two good copies of your license or CSCE. A copy of your license or CSCE must be attached to your FCC form 610 and most VEC want a copy for their records. You will also be required to have a photo ID, or other acceptable identification.

Technician class licensees must show proof of testing before March 21, 1987, in order to upgrade to General with a code test only.

Additional information is given below.

For those with internet access, a listing of exam sessions is available from:

<http://www.arrl.org/arrlvec/examsearch.phtml>

By checking this page, a person can find out registered VE sessions anywhere in US and some overseas. You can search by country, state or zip code. The listing is not specific to any particular VEC, it is a master database. (Thanks to KB9EQI for information.)

#### MILWAUKEE RADIO AMATEURS' CLUB (MRAC/VEC)

SECOND SATURDAY - OAK CREEK, WI  
 LAST SATURDAY - MILWAUKEE, WI

SECOND SATURDAY DATE: 1:00 p.m. to 3:00 p.m. at Wauwatosa Savings Bank, 6560 S. 27th St., Oak Creek, WI.

LAST SATURDAY DATES: (except December): 9:00 a.m. to 12:00 noon at Amateur Electronic Supply (AES), 5710 W. Good Hope Rd., Milwaukee, WI. Note: For Additional Information: Call (414) 466-HAMS (Answering Machine).

Bring along your ORIGINAL license, CSCE (if any) and one (1) good quality photocopy of each, plus two forms of identification, such a driver's license, etc. Also required is \$6.35 for the exam fee. WALK-INS are welcome. To register in advance, use a post card: Print the grade of license you are applying for, your name, address, and telephone number. Send the card to MRAC/VEC, Milwaukee Radio Amateurs Club, PO Box 25707, Milwaukee, WI 53225.

#### BADGER EXAMINERS (BE) - MILWAUKEE

Badger Examiners group tests at AES (Amateur Electronic Supply) at 60th and Good Hope, every third Saturday MORNING. Exam times are 9:30 a.m. to 12:00 noon, at the old Sterman Printing shop, just 300 feet west of the AES store. Novice to Extra are offered, and all test materials are provided. Fee is \$6.35, and bring your original license, or CSCE if needed. Also available are Commercial license exams GROL (General Radiotelephone license), GMDSS, Telegraph, Etc. Fee is \$35.00. For more information call Gary Sharbuno, WI9M at (414) 355-0237.

#### MADISON, WI

VE exams are held in Madison every second Saturday morning of the month at 8 a.m. They are held at the operations building of the Madison Metropolitan Sewerage District at 1610 Moorland Rd. To get there take the Beltline (Hwy 12 & 18) to South Towne Drive. Go south 8/10 mile till South Towne Drive makes a bend and becomes Moorland Rd. and enter at gate.

You should bring a picture ID, your original licence and a copy of your licence. For exams beyond the novice tests, bring a check for \$6.35, made out to the ARRL/VEC. If the special 610 form with the medical exemption is required, contact me beforehand to obtain one. No appointments are necessary to take exams. For further questions, please leave a message on the mailbox or phone me at (608) 832-6631.

Mark Jenks, NZ9B

#### MENOMONIE, WI

VEC Exams of all levels will be held Saturday, at the UW-Stout Communications Center, 820 South Broadway, Menomonie, Wisconsin. Walk-ins only. Walk in between 9:00 and 11:00 am. For further information, contact Jim Ley, NX9F. (W) 715-232-1397 or (H) 715-235-3998.

#### STEVENS POINT, WI

ARRL Exams in Stevens Point, December 5, 1998. Time: 0930. Place: A107 Science Building, on campus at UWSP (corner of Fourth and Reserve streets) For more information contact Joe Larson, N9JW, at 715-344-1182 evenings or email to joel8@bigfoot.com.

#### RACINE, WISCONSIN - ARRL/VEC

Monthly - first Saturday, except January, July, and August. Monthly exams are given 9:00 to 11:00 a.m. at the Red Cross Building, 4521 Taylor Avenue, Racine. Walk-ins are permitted. Talk in on 147.87/27. Inquiries and registrations should be directed to Robert N. Jensen, W0WLN, 5616 Cambridge lane #6, Racine, WI. Telephone (414) 886-8551.

#### TOMAHAWK, WI Last Saturday of every month.

Jan. thru Oct.

Tomahawk Volunteer Examiners (ARRL/VEC). Tomahawk, WI. No preregistration required, but appointment would be appreciated. Registration at 8:30 a.m. and testings starts at 9:00 a.m. For location or other information, inquire on 145.43 MHz. repeater or contact: Terry Collins, KB9AUP, W6564 Highway 8, Tomahawk, WI 54487. Telephone (715) 453-4633.

#### APPLETON, WI - ARRL/VEC

##### MANITOWOC, WI (HAMFEST)

##### KAUKAUNA, WI (HAMFEST)

Conducted by the Fox Cities ARC VE team. All test sessions in Appleton are held at James Madison Jr. High, 2020 S. Carpenter Street. Testing starting at 8 a.m. For Appleton information, contact George R. Croy, W9MDP, 2113 Twin Willows Drive, Appleton, WI 54914. (920) 730-0967. For Manitowoc or Kaukauna information, contact Larry Siebers, KD9IA (920) 759-1167.

#### OSHKOSH (OMRO)

The Oshkosh VE Team will administer Amateur Radio exams monthly on the first Saturday. Registration begins at 8:30 a.m. and exams will be given from 9 a.m. until noon at the Omro Community Center, 130 W. Larrabee, Omro, WI. Walk-ins welcomed. Bring a good quality photocopy of your original license and any other necessary documents such as a CSCE, etc. The first session will be through W5YI/VEC, and then sessions will alternate between ARRL/VEC and W5YI/VEC. The exam fee is \$6.35. For more information, please call Dick Lemme, K9FA, at (920) 235-0987, e-mail lemme@vbe.com, or write Dick at 826 Jefferson Street, Oshkosh, WI 54901.

#### OSHKOSH, WI (R.A.W.) - (W5YI/VEC)

December 19, 1998, February 20, 1999, May 22, 1999, August 21, 1999, October 16, 1999, December 18, 1999. Sponsored by Radio Amateurs of Wisconsin (R.A.W.) Testing sessions at UW Oshkosh, College of Nursing Building, 845 Algoma Blvd., Room 211, Oshkosh, WI. Park free in lot 29 on side of building or in lot 25 behind the building. Registration start at 9 a.m. \$6.35 per test. Bring 2 forms of id etc. Walk-ins are welcome. Contact: Mark Miller, N9WT, (920) 231-1662 or Mike O'Conner, K9II (920) 231-7093.

#### EAU CLAIRE, WI

The Eau Claire ARC will hold exam sessions on the second Saturday in the months of January, April, and October, as well as on the date of their annual hamfest during the summer. For more info: Steve Bluem KA9OMY 715-839-6509

#### SHEBOYGAN, WI

Wednesday dates: Registration 1830 hrs, testing 1900 hrs. Saturday dates: Registration 0830 hrs, testing 0900 hrs. Testing site is: Red Cross/Boy Scout Office Building (lower level), 2032 Erie Ave., Sheboygan, WI. Test site has limited handicap accessibility. Walk-ins are OK

but preregistration would be appreciated. Test fee is \$6.35. Make checks payable to SCARC VE Testing. All class tests administered. Contact: Art Pahr, K9XJ, (920) 876-2370. e-mail <k9xj@excel.net>

#### ONALASKA, WI (ARRL/VEC)

The Riverland Amateur Radio Club will hold test sessions at the Onalaska Public Library, 741 Oak Avenue South. registration begins at 9:00 a.m. Please bring two forms of identification and two copies of all original documents, CSCEs, license, etc. For more information contact: Roger Reader, KA9BKK, 526 13th Ave. N., Onalaska, WI 54650. (608) 783-0723.

#### MEDFORD, WI (ARRL/VEC)

Taylor County Area AREC. Registration starts 8:30 a.m., testing starts 9:00 a.m. Location: The conference room in the lower level of the Sheriff's annex to the Taylor County Courthouse, corner of 2nd and Ogden Sts., Medford, WI. Take Ogden St. west off of Hwy. 13 to the courthouse. Park in the lots on the east or south sides of the courthouse or on the street. PLEASE use the entrance on the south side of the courthouse and watch of the signs. Walk-ins welcome. Contact: Tom Hrdina, N9GEN, 2373 Willow Ave., Medford, WI 54451. (715) 748-4054

#### PEWAUKEE, WI

December 5, 1998. The location is a little more handicap accessible, room S110 in the back of the science building by the handicap parking interance. WCTC is on Hwy JJ off Hwy 16 from the East I-94 and Hwy T from West I-94 just north of GE Medical Systems. Tests start at 9:00 AM and registration ends at 10:00 AM. Contact: Al Johnson, AA7CS

#### HUDSON, WI (ARRL/VEC)

05-Dec-1998, Sponsor: St. Croix Valley AR Testing Col. Time: Call for time and walk-in info, Contact: Gregory Miller (715)386-9857

Location: St. Croix County Emergency, Government Center by jail, Carmichael Rd. lower level, Hudson, WI 54016. (Information trnx ARRL Web site)

#### CEDARBURG, WI - ORC HAMFEST

##### EAU CLAIRE, WI - ECARCHAMFEST

##### GREEN BAY, WI - ARESHAMFEST

##### HAYWARD, WI - HAYWARD HAMFEST

##### KAUKAUNA, WI - SWAPFEST

##### MANITOWOC, WI - LAKESHORE HAMFEST

##### OAK CREEK, WI - SMARCHAMFEST

##### RACINE, WI - RACINE HAMFEST

##### RHINELANDER, WI - NWARC SWAPFEST

##### ROCKFORD, IL - RARC HAMFEST

##### ROTHSCHILD, WI - WVRA HAMFEST

##### SOUTH MILWAUKEE, WI - SMARCHAMFEST

##### STEVENS POINT, WI - CWRA SWAPFEST

##### WAUKESHA, WI - KMRA SWAPFEST

##### WAUKESHA, WI - MIDWINTER SWAPFEST

##### DUBUQUE, IA - HAMFEST

See the Swapfest column for additional information and contact persons.

#### DUBUQUE, IA - ARRL/VEC Dubuque Hamfest.

Contact: Carl Clark, NOKAX, 2145 Delicia Drive, Dubuque, IA 52001. (319) 557-9149.

#### ROCKFORD/LOVES PARK, IL

Third Saturday of every month.

Northern Illinois Volunteer Examiners (W5YI VEC). Held at North Suburban District Library, 6340 North Second St. (Hwy. 251), Loves Park, IL. 9:00 a.m. to noon. No new applicants after 11:00 a.m. Walk-ins welcome. Contact: Rusty Cordell, WB9QYV, 1823 Hulin St., Rockford, IL 61102-2619. (815) 968-0080. e-mail WB9QYV@aol.com

#### MINNESOTA TEST INFORMATION

From "The Ground Wave", Saint Paul Radio Club.

##### Saint Paul Radio Club (SPRC)

Contact: Ed VanCleave, W0VC, (612) 636-0108

Test Site: St. Paul Technical College

235 Marshall Ave.

St Paul, MN

TESTING: First Saturday of the month, 8:30 a.m.

##### Anoka Amateur Radio Club (AARC)

Contact: Craig Johnson, AA0ZZ (612) 483-3143

Test Site: Blaine City Hall

9150 Central Ave NE

Blaine, MN

TESTING: Second Saturday of the month, 9:00 a.m.

##### Bloomington Office of Emergency Management

(Bloomington Amateur Radio Club (BARC))

Contact: Dan Royer, KE0OR (612) 888-9756

Test Site: Fire Station No. 1

94th St. & Nicollet Avenue S.

Bloomington, MN

TESTING: Fourth Saturday of the month, 9:00 a.m.

##### Valley Amateur Radio Club (VARC)

Contact: Bill Martin, AI0D (612) 432-0438

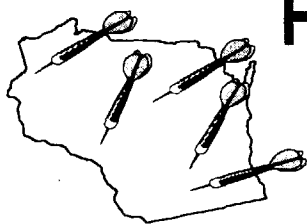
Test Site: Hayes Community Center

14601 Hayes Road

Apple Valley, MN

TESTING: Second Thursday of the month 7:00 p.m.

(continued on page 15)



## HERE and THERE

### Ballots counted in ARRL board races

Two incumbent ARRL directors and three incumbent vice directors were among the successful candidates for contested seats on the ARRL Board. In addition, two new vice directors were elected as ballots were tallied November 20 at League Headquarters by the ARRL Committee of Tellers.

Retaining their ARRL Board seats were Central Division Director Edmond A. Metzger, W9PRN, and West Gulf Division Director Jim Haynie, W5JBP.

Metzger tallied 1846 votes to outpoll two other candidates--Henry B. Ruh, KB9FO, who got 1468 votes and Richard David Klatzco Jr, N9TQA, who got 1297 votes. Incumbent Central Division vice director Howard S. Huntington, K9KM, beat back a challenge from Mike Hoshiko, W9CJW, by a vote of 2748 to 1849. Metzger and Huntington will serve two-year terms.

By a 2113 to 1602 vote, Haynie successfully overcame a challenge from Lawrence S. Higgins, W5UQ, but the West Gulf Division will have a new vice director. Oklahoma Section Manager Coy C. Day, N5OK, defeated incumbent vice director Barney J. Boone, KJ5AE, 2330 to 1346. Haynie and Day will serve three-year terms.

In the Rocky Mountain Division, current Director Marshall Quiat, AG0X, outpolled Marvin C. Zitting, W7MR, for vice director, 1391 to 816. Quiat effectively swapped places with current Vice Director Walt Stinson, W0CP, who ran unopposed for the Director's slot. Stinson and Quiat will serve three-year terms.

Incumbent vice directors also won their races in the New England and Northwestern divisions. In the New England Division, Michael Raisbeck, K1TWF, defeated

Andrea T. Parker, K1WLX, for a two-year term by a vote of 2469 to 1463. In the Northwestern Division, Greg Milnes, W7AGQ, defeated Mary E. Lewis, W7QGP, for a two-year term by a vote of 2930 to 1609.

Several other candidates for director and vice director faced no opposition, and the Election Committee earlier declared them elected:

- In the Hudson Division, reelected for two-year terms: Director Frank Fallon, N2FF, of East Williston, New York, and Vice Director J. P. Kleinhaus, W2XX, of Cortlandt Manor, New York.

- In the New England Division, reelected for a two-year term: Director Tom Frenaye, K1KI, of West Suffield, Connecticut.

- In the Northwestern Division, reelected for a two-year term: Director Mary Lou Brown, NM7N, of Anacortes, Washington.

- In the Roanoke Division, reelected for two-year terms: Director John Kanode, N4MM, of Boyce, Virginia, and Vice Director Dennis Bodson, W4PWF, of Arlington, Virginia.

- In the Southwestern Division, reelected for three-year terms: Director Fried Heyn, WA6WZO, and Vice Director Art Goddard, W6XD, both of Costa Mesa, California.

Terms of office for successful candidates begin at noon on January 1, 1999.

The ARRL Letter

### FCC sets aside four Extra Class grants

The FCC has notified four individuals that it is setting aside their recent Extra Class license grants and privileges while it investigates alleged irregularities in the volunteer examination process. Letters from the FCC went out November 10 to Elmer J. Smith, N3UNR, of Effort, Pennsylvania; Philip DiGenova, N3UNS, of Bartonsville, Pennsylvania; Wayne S. Bowden, AA3RT, of Millsboro, Delaware; and Kenneth L. Sharp, AA3RU, of Boyertown, Pennsylvania, that the Commission was setting aside their Extra Class grants. All four individuals were requested to return their Extra Class license documents and Certificates of Successful Completion of Examination (CSCEs) to the FCC's Gettysburg office.

"This letter is not a finding that you have engaged in misconduct," the letter said, adding that if the FCC's

## Silent Key

Frederick A. Krause, W9VLK, of Milwaukee, passed away at home November 8, 1998, at the age of 80. He was preceded in death by his former wife Barbara. Fred retired after a lifetime of dedicated service with the Square D Company and was an avid ham radio operator.

(From Milwaukee Journal Sentinel,  
Friday, November 13, 1998 via K9GDF.)

investigation concludes that it should grant the Extra Class license applications, it will reinstate the grants.

An FCC official said the investigation was looking into testing irregularities including allegations that examinees might have been coached or given test answers. "They are bumped back for now while we investigate, since we had enough evidence at the outset to do that," he said.

For the time being at least, Smith and DiGenova have been bumped back to Technician class licensees, while Sharp will revert to Advanced class and his former N3TPN call sign. All three took their examinations October 6 at a W5YI-VEC session in Warminster, Pennsylvania. Bowden apparently never held a ham ticket prior to taking the examination elements for Extra Class at Spring City, Pennsylvania, on October 4 during a W5YI-VEC testing session. The call sign AA3RT no longer appears in the FCC database. The records of the other three amateurs involved were modified November 10.

The ARRL Letter

### FBI arrests Georgia ham for interfering with aircraft communication

The FCC, the FAA, and the FBI have announced the arrest of a Georgia ham for allegedly interfering with radio communication between aircraft and air traffic controllers in Northern Georgia. An FBI statement issued this week said that Kevin M. Kelly, N2BYE, an Advanced class licensee, was arrested without incident November 6 at his Cumming, Georgia, home by FBI agents accompanied by FAA and FCC agents. The arrest followed a search of Kelly's residence.

Kelly was charged in a criminal complaint with four counts of breaking federal law prohibiting knowingly interfering with the operation of a "true light" or signal used at an air navigation facility. The FBI said its case stemmed from FAA reports of "sporadic and momentary radio frequency interference" between aircraft and air traffic controller communications. The FBI said an extensive investigation showed the RF interference to be coming from the Hyde Park Subdivision in Cumming where Kelly lived.

The FBI described Kelly, 46, as "a highly experienced electronics engineer" who was said to have been "extremely upset" about air traffic noise above his home. Kelly was scheduled to appear November 9 before a US magistrate in Atlanta.

The ARRL Letter

### Storm or shower, Leonids provide thrill of a lifetime

Hours of lost sleep were a small sacrifice to the many VHF and UHF enthusiasts who got the thrill of a lifetime working meteor scatter during the Leonid shower November 16-18. "For nearly all radio operators, it was spectacular," enthused Shelby Ennis, W8WN, of Elizabethtown, Kentucky. "This was the year of the fireballs."

Leonids get their name from the constellation Leo, which appears to be their source in the sky. The meteors originate from debris and dust in the wake of the comet Tempel-Tuttle, showing up each November. Approximately every 33 years -- the length of time it takes for Tempel-Tuttle to orbit the sun -- the shower can reach storm proportions.

Ennis and others also seem to agree that this was the year for long-distance contacts, possibly a few record-setting ones. "My biggest thrill was working Vermont on 2 meters, which is over 1400 miles," said Larry Lambert, N0LL, who lives in northern Kansas. He said he encountered one "burn"--or trail--that lasted nine minutes, during which he was able to work 11 stations.

Most, if not all, agree that the Leonids showed up a bit earlier than predicted, and that this year's event was a shower, not a storm. Some predicted that next year will be "the big one" that some had thought might happen this time around. Even so, all reports indicate gratifying results for those who participated. "I came home from work between 1800 and 1900 UTC on the 16th, and things were wild," Lambert said. His skeds at the predicted peak of 1900 UTC on the 17th failed for

#### 27th ANNUAL MIDWINTER Ham Radio, Computer, Electronics

## SWAPFEST

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8:00 AM - 2:00 PM

NOTE:  
change of day

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RESERVED TABLES: \$4.00 per 4 foot table - \$5.00 at Door (if available)

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Bring your original license with photocopy, CSCEs

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(table reservation does not include admission)

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Electrical Outlet \$10.00 (advance only)

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STREET:

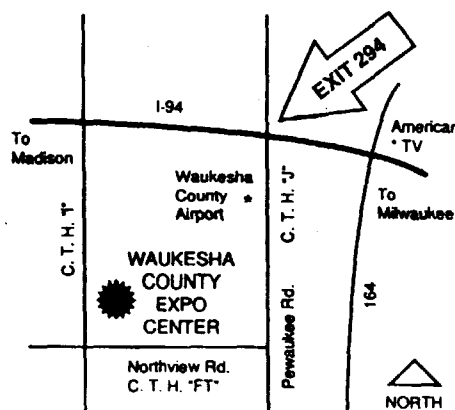
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PHONE: ( )

Mail with business size S.A.S.E. to:

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MILWAUKEE, WI 53201

#### Waukesha County Expo Center Location





for meteor scatter contacts, Ennis said that as a result of the numerous long-burning fireballs this time, SSB turned out to be "much more effective than HSCW." Ennis said HSCW worked best for times prior to the shower's peak, but SSB was "far more effective" once long bursts begin to appear.

Some stations were able to put several new grid squares, states and even countries into their logbooks, thanks to the Leonids. During the two days he operated, Bill Mitchell, K0WLU, in Minnesota, logged 124 stations in 99 grid squares on 2 meters, using both SSB and CW and running just 90 W into a Cushcraft 17B2 antenna. Not only that but he operated for several hours on emergency power after he lost electricity at his house. He used a marine battery to power his rig and amp, and an inverter to run his rotator!

Arliss Thompson, W7XU, in South Dakota, reported "exceptionally good" conditions on the morning of November 16. "I hope I'm around in another 33 years!" he said. Thompson worked several new grids and states on the bands from 50 MHz to 432 MHz, including his first-ever 432 meteor-scatter QSO with N6RMJ in California -- possibly a record at 2036 km (for his part, N6RMJ reported dozens of MS contacts on 6 meters through 70 cm). The 144.200 MHz gathering spot on 2 meters had "so many signals that we couldn't copy anyone," Thompson said, expressing appreciation to those who moved off the calling channel to clear the congestion.

For those whose visibility was not obscured, the view from the ground also was spectacular in some US locations, although the peak viewing was in Asia. Ron Dunbar, W0PN/3, in Maryland, stepped outside to check the sky early on the morning of November 17. "Only five seconds after I stepped onto the deck, a brilliant Leonid streaked by from due east to due west," he said. "As it arched down to the western horizon, it exploded!" Dunbar said the resulting light was so intense it lit up his backyard.

Dunbar concluded that this year's Leonids shower was "definitely not normal, to say the least" because of an apparently greater numbers of larger particles generating more impressive burns. "Every trail I saw during the 15 minutes I was out there was most likely created by pieces of cometary debris of a size between a marble and a chicken's egg," Dunbar said in a posting to the Meteor-Scatter reflector, "and the fireball had to be considerably larger."

An ATV-carrying balloon launched by NASA scientists at the Marshall Space Flight Center in Huntsville offered live, real-time viewing of the Leonids shower via the Internet (see <http://www.leonidslive.com/>). At last report, the balloon was being retrieved from North-Central Georgia.

The Russian Mir space station and apparently all communication satellites came through the Leonid shower unscathed. The two cosmonauts aboard Mir took temporary refuge in the Soyuz escape spacecraft during the peak of the meteor shower. During an earlier space-walk, they had installed a meteorite trap to possibly catch some of the debris.

The ARRL Letter

## Dutch VLF experiment doesn't fly

Richard Middel emailed BSSS to let us know that the VLF experiment set for mid-November didn't get off the ground - in the literal sense. The antenna, 900 feet of wire, was to have been airborne by a kite. All the ingredients - operators, equipment, antenna, and kite - were present. Sadly, the wind was not-existent; it took a break. (A later attempt was successful; see page 13.)

And, another plus: Richard passed him ham exam.

## Ray hangs it up

As most readers likely know, Ray Szmanda, Antigo, for many years a spokesman for the Menard's TV commercials, has had to quit for health reasons. We tried to reach Ray for a comment to the ham community, but there is no listing now, according to telco information. Ray's ham call is KB9JPB. We wish Ray and his family the best.

Jim, K9ZZ

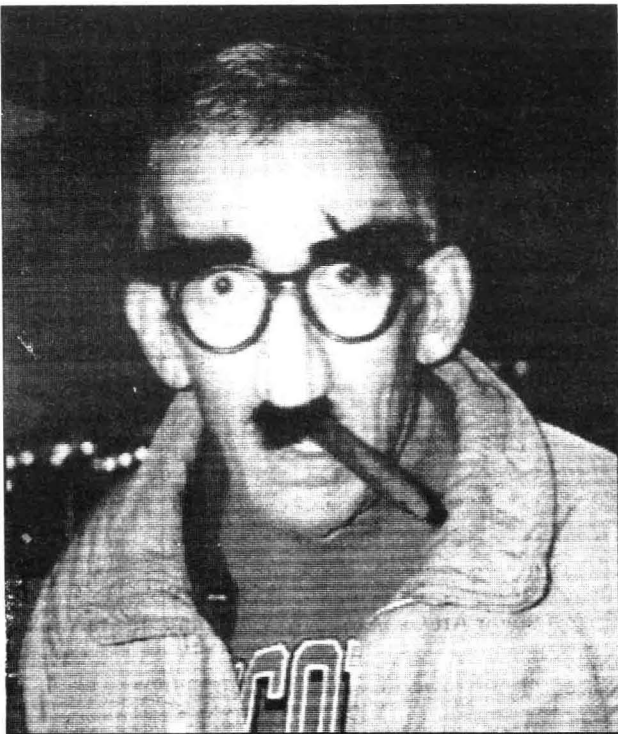
## They're baaack!

US-made 3-500Z and 4-400A/C tubes: Triton Services of Easton, Pennsylvania -- which acquired the EIMAC Glass Tube Division (and the original equipment and technology) a couple of years ago -- now is producing 3-500Z and 4-400A/C tubes to the original EIMAC specs.

These are available exclusively through D&C Electronics, 3089 Deltona Blvd, Spring Hill, FL 34606; tel 800-881-2374; 352-688-2374; fax 352-683-9595; e-mail [tube@gate.net](mailto:tube@gate.net); <http://www.dandcelectronics.com>. (D&C also can supply 811A, 572B and other tubes, made in China and Russia.)

The ARRL Letter

## IN YOUR FACE!



Contributed photos to this rag have dwindled to nearly nothing, so we present you with a photo of a nothing: your extinguished editor. Halloween does bring out some even odder looks.

Photo by Lynn (Her last name omitted to protect her reputation.)

## First day covers

If you're interested in Amateur Radio stamps, check out the Web page of Gary G. Flechtner Sr, WJ8C, at <http://www.bright.net/~wj8c/>. Gary's interested in additional color photos of first-day covers. Send pictures in .jpg or .gif format via e-mail to [wj8c@bright.net](mailto:wj8c@bright.net) or hard-copy photos to Gary G. Flechtner Sr, 188 N State Rte 101, Tiffin, OH 44883-9656.

The ARRL Letter

## ECFS replaces RIPS

As of October 26, the FCC's Electronic Comment Filing System (ECFS) has replaced the Record Imaging Processing System (RIPS) as the main source for copies of documents filed in docketed and rulemaking proceedings. The public can view all ECFS documents at <http://www.fcc.gov/e-file/ecfs.html>. The public also can file comments electronically in unrestricted rulemaking and docketed proceedings. The ECFS is designed for use with Netscape ver 3 or higher or Internet Explorer ver 3 or higher. The FCC plans to add an FAQ page to ECFS to make the system more user-friendly. For more information about using this system, contact Patricia Rawlings, [prawling@fcc.gov](mailto:prawling@fcc.gov); 202-418-0294. For more information about filing comments, contact Magalie Salas, [msalas@fcc.gov](mailto:msalas@fcc.gov) or Bill Caton, [wcaton@fcc.gov](mailto:wcaton@fcc.gov), 202-418-0300.

The ARRL Letter

## FCC shuts down four HF pirates

The FCC has shut down four unauthorized HF broadcasters in Massachusetts, Illinois, Texas, and California. The stations all transmitted on 6955 kHz. Two of the operators are radio amateurs, according to an FCC spokesperson, who said the ham licenses "are definitely in jeopardy." The two hams were identified as 41-year-old Richard F. Jurrens, KC5RGK, a Technician licensee who lives in Katy, Texas, and 46-year-old Henry Lee "Hank" Landsberg, WB6MEU, an Advanced class licensee who lives in Sierra Madre, California. The

## Sputnik SWL report address

Reception reports for Sputnik 41 should include date and time in UTC, approximate signal strength, and may also include equipment used to hear the satellite.

Send the report to:

AMSAT-F  
QSL RS-18  
14 bis rues des Gourlis  
92 500 Rueil-Malmaison  
France

Include at least one International Reply Coupon (IRC) and a self-addressed envelope.

Thanks Gerard, F6FA

names of the others cited were being withheld pending further official action.

In making the busts, the FCC's Columbia, Maryland, Operations Center coordinated and provided information to FCC agents from the Boston, Chicago, Houston and Los Angeles offices. FCC inspectors from those offices then performed on-site visits to the unauthorized stations.

With the exception of certain low-power Part 15 devices, broadcasting on the HF bands is not authorized without a station license. Under the Communications Act, violators may be subject to penalties up to \$11,000 and the equipment used may be seized and forfeited by court order. Unlicensed operators also face criminal fines of up to \$100,000 and/or imprisonment for up to one year, or both, for a first time offense.

The ARRL Letter

## Drake ends factory service for older gear

R. L. Drake Company has announced it no longer will provide factory service for most of its older Amateur Radio and marine equipment. The list includes much -- but not all -- of the popular 4-Line equipment.

Veteran Drake Service Manager Bill Frost, WD8-DFP, says it's getting harder to get parts for the older Drake units. "The big switches, you can't buy those things anymore," he said this week. "The big electrolytics are not available."

Frost, who's been with Drake for 32 years, said his department has "reached a point where we cannot service the older products in the manner to which our customers have become accustomed." Technicians familiar with the older, mostly tube-type gear also are in short supply these days. "Our technical expertise on the older equipment has gradually been diminished by the loss of long-time employees due to retirement," Frost said. He also said the cost of repairs can easily exceed the cost of the equipment.

The company has posted a list on its Web site at <http://www.rldrake.com/tech/Outofservice.html> of items that it no longer can service. The list includes The R-4 and R-4A receivers, the popular T-4X, XB, and XC HF transmitters, and the TR-3 and TR-4 transceivers, as well as most of the power supplies for those units, the SSR-1 receiver, and the TR-22, 22C and TR-33C 2-meter transceivers. Items on the list and sent to Drake for repair will be returned to the sender unrepaired accompanied by a bill for shipping, handling, and applicable COD fees.

Frost said Drake is still servicing "to an extent" the R-4B and R-4C receivers as well as the TR-5 and TR-7 transceivers. The company also still will provide factory

Please turn to page 13

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DECEMBER 1998



# The Computer Corner

By Stan Kaplan, WB9RQR • 105 Martin Drive  
Port Washington, WI 53074-9654  
(414) 284-9346  
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SKAPLAN @ MCW.EDU



## No. 61: Parity: Odd But Necessary

Many of you have probably seen SIMMs (Single Inline Memory Modules), which provide the Random Access Memory (RAM) for your computer. SIMMs consist of a small circuit board about 4 inches long by 3/4 inch wide. Typically they contain nine chips permanently soldered to the board, all in a row. Eight of the chips are involved in storing data; the ninth is for parity.

If you are at your keyboard composing a letter, the characters you type are echoed to the screen, but they also go into RAM. When you later save the file to disk, the contents of RAM are read back out and written to the disk.

Parity (or more correctly, parity checking), is a scheme to check that the data written into RAM is the same later when it is read back out. Why do you need parity? Because errors abound in modern computers, no matter how well they are built.

As you might expect, errors can occur when reading data from or writing data to the magnetic surface of a hard or floppy disk. But errors can also occur due to the data being changed, even when no read or write operations are taking place. Cosmic rays are constantly bombarding us from outer space, and if they strike a magnetic domain on a disk, they can change a 1 to a zero, or the reverse. The same sort of change can occur inside a RAM chip if it is struck by a cosmic ray. It has been estimated that the average user of a modern computer can expect about one error per month just due to a cosmic ray striking something inside their computer. Thus, error checking is prudent, a Good Thing. While it cannot prevent errors, or even correct them, it can alert us to the fact that an error has occurred. We can then take steps to minimize the consequences of the damage.

Well then, how does this parity business work? In the June 1995 column (No. 21, SERIAL AND PARALLEL), I used a favorite analogy to describe how data is represented in a computer. The data is stored in 8 bits (one byte), and we can think of these 8 bits as a row of eight simple ON/OFF switches - all single pole/single throw. Let us suppose that you are working in your word processor and you type the capital letter A. Here is how the letter A is represented:

Switch number	7	6	5	4	3	2	1	0
Bit Value	0	1	0	0	0	0	0	1

Strangely, computer nerds start counting from the right instead of the left, as you can see in the switch number column. Another nerdy characteristic is that they call the first thing in any series of things the "zeroth" thing. Thus, the first switch is switch

number zero, the second is switch number one, and so on. A bit value of 1 means the switch is on; a value of 0 means the toggle has been flipped to off. As you can see the switch number zero is on, the next 5 switches are off, the next is on and the 8th (switch number 7) is off. This pattern of the on/off position of 8 switches represents the capital letter A. No other pattern represents A; it is unique. Another example, the lower case a, is shown below:

Switch number	7	6	5	4	3	2	1	0
Bit Value	0	1	1	0	0	0	0	1

So, here is how parity works. When you type the A, 8 switches (one in each of the first 8 chips on a SIMM) are set to the bit pattern shown in the first example above: 01000001. The system then counts the number of ones present. There are two. Two is an even number, so the system sets a switch in the 9th (parity) chip to 1. Now there are three ones, an ODD number. If you next type a lower case a, the next group of switches are set to the pattern shown in the second example: 01100001. The system counts the number of ones present. There are three, an ODD number, so it sets the parity chip bit to 0, thus maintaining an ODD number of ones. In every case, the system flips the parity toggle switch so as to make an ODD number of ones (hence the tongue-in-cheek title of this article).

Later, when the data is read back (such as when you save the file to the disk), the system checks the number of ones. If the 8-bit byte and the parity bit together have an even number of ones, there must be an error in that byte.

What happens if there is an error? The system generates a Non-Maskable Interrupt (NMI), which is a techie term that essentially means the Central Processing Unit is told to unequivocally quit doing whatever it was doing, RIGHT NOW! The system may then clear the screen and offer a menu: S)hut off NMI. R)boot. Press any other key to continue.

If you ever see that message, press the space bar to continue. Then save your work, but don't save it with the same file name you were using before. If you use the same name, you may write possibly corrupted data over your older, but good, copy of the file. Save it using a new name, and check it later to see that it is good. Then reboot and see if everything seems normal. If it is, then perhaps it was only a cosmic ray coming through your roof and striking your computer. On the other hand, if it happens again and often, you may well have a bad memory chip or even a bad motherboard.

Now, get this. In the mid 1990's, computer manufacturers began making motherboards that did not check for parity. Having thus disabled parity checking, they were able to install 8 chip, non-parity SIMMs, which were 10-15% cheaper than the parity checking versions (anything for a buck!). They did not advertise this, and the public was unaware that any change was made. Although a number of these manufacturers have now gone back to parity checking motherboards and SIMMs, there may still be some systems that are being sold without it. The message: if you are purchasing a new computer, get a statement in writing that both the motherboard and the installed SIMMs will support parity checking. Don't buy without the statement. If you do, you are likely getting a non-parity checking system, and will never know if parity errors are occurring. It is not good enough to just be sure parity memory is installed. A non-parity checking motherboard will work fine with parity SIMMs installed, but parity will not be checked. Happy computing!

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## Second Sputnik replica works well

Continued from front page

are only internal batteries with no recharging possible. When the batteries are discharged, the satellite will go silent. However, it may still be working when this issue reaches you.

It transmits on a nominal frequency of 145.812 MHz, FM. As the bird approaches, Doppler shifts that about 3 kHz higher, so 145.815 is where to listen. After closest approach, then 145.810 is appropriate.

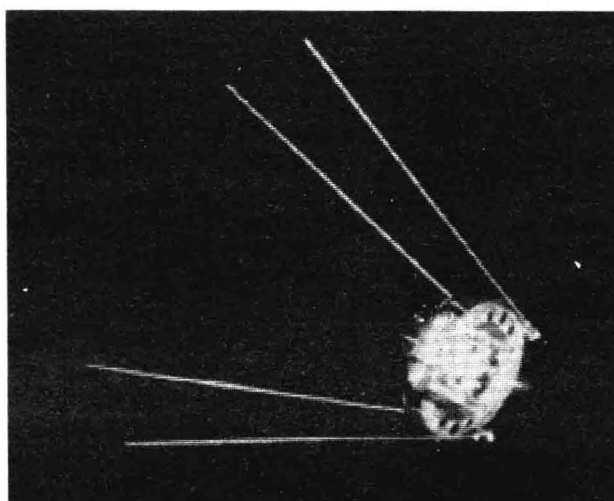
Yet another model Sputnik is aboard Mir, one like last year's model. It is not known whether this satellite will be tossed into orbit.

In addition to the voice announcements, there is a period of audio tone which is indicative of the internal temperature of the satellite. Another sound transmitted, which sounds like someone pounding on an empty can (or my head), is a "bad recording" of last year's commemorative Sputnik.

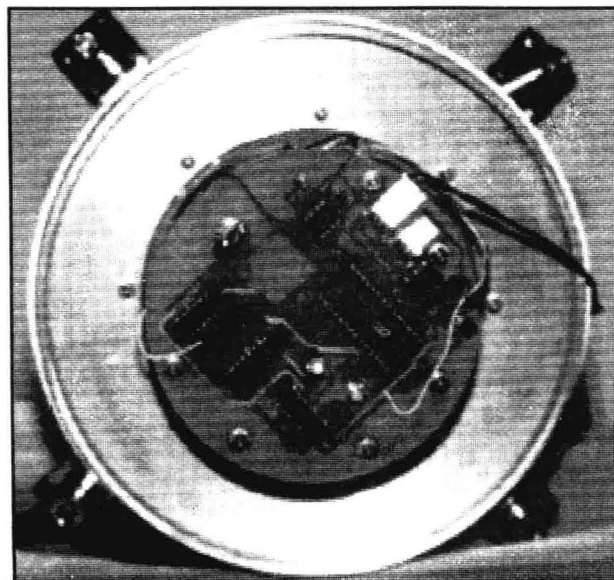
The little bird transmits only 200 milliwatts (two tenths of a watt), yet can be clearly heard with a halfway decent antenna. Many have heard near passes with a hand-held.

Congratulations and thanks are due our Russian and French Amateur Radio friends. From concept in late spring to operating in orbit in mid-autumn says something important: radio amateurs are state of the art indeed, and that if needed, we can get things, simple or complex, done quickly.

Now, we ponder if or when a commemorative OSCAR will be built and orbited to honor OSCAR 1, which transmitted the greeting "hi" in CW to Earth-



Two other views of Sputnik 41. SWL reports should be sent to the address shown on page 5.



bound listeners in 1961.

Since I am advised by hams more "in tune" than I ever will be that all hams either have Internet or access to it, point to:

<http://www.ccr.jussieu.fr/physio/Satedu/sputnik41.html>

and get more information. A certificate will be offered for reception reports.

Jim Romelfanger, K9ZZ

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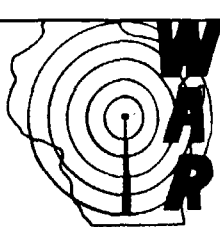
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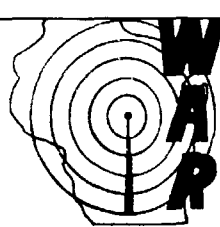
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# Wisconsin Repeater List

## Courtesy of the Wisconsin Association of Repeaters



The WISCONSIN ASSOCIATION OF REPEATERS is an organization of trustees and representatives of repeaters, state-wide, whose goal is mutual cooperation on the VHF UHF spectrum, in the voluntary spirit of Amateur Radio.

### GENERAL FREQUENCY COORDINATION POLICIES

1. We attempt to place no two repeaters on the same pair closer than 90 miles on Two Meters, 70 miles on 222 MHz, and 60 miles on 440 MHz. and up.
2. We attempt to place no repeater on a 15 kHz split pair closer than 40 miles to any adjacent 30 kHz standard spacing machine.
3. We not only assist proposed repeaters in finding a frequency where possible, but we actively attempt to protect coordinated repeaters' frequencies from interference whenever possible.
4. W.A.R. has suggested band plans for most of the FM spectrum, a subaudible tone plan for the State of Wisconsin and all necessary information for coordination of new or modifications to existing repeaters. Contact the Frequency Coordinator.

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Wisconsin Association of Repeaters  
6925 W. Sheridan Ave.  
Milwaukee, WI 53218

O	Carrier Access	PL	Sub-Audible Continuous Tone
T	Touchtone	C	Closed Private Repeater
A	Autopatch	(CA)	Closed Private Autopatch
E	Emergency Power	L	Link and/or Crossband
P	Portable	R	RACES Affiliated
Z	Autopatch to Law Enforcement	X	Wide Area Coverage

### Wisconsin Sub-Audible Tone Plan By Region

North Central - 2A, 114.8 Hz	North East - 1B, 107.2 Hz
North West - 2Z, 110.9 Hz	South Central - 3Z, 123.0 Hz
South East - 3A, 127.3 Hz	South West - 3B, 131.8 Hz

### Standard Inputs Unless Otherwise Noted

-1.700 MHz for 6 Meters  
-600 KHz. below 147.00 MHz, +600 KHz to 148.00 MHz. for 2 Meters  
-1.6 MHz for 220 MHz, and + 5 MHz for 440 MHz  
421.25 MHz. TV Video + 18 MHz 425.75 MHz TV Aural, + 9 MHz

Location	Rg	Output	Call	Access	Update	OK=*	Sponsor	Updated
ADAMS	NC	145.290	KB9JYT/R	O CA E Z WX TT	* ACARC			05/15/98
ALLENTON	SE	442.350	N9GMT/R	O PL114.8 A EZ L X	FM38			09/29/97
ANTIGO	NC	53.050	N9TQO/R	O	* N9TQO			06/09/98
ANTIGO	NC	145.310	KD9HH/R	O A E Z	* KD9HH			04/04/98
ANTIGO	NC	147.255	N9TEV/R	O PL114.8 A E TT Z	* N9TEV			05/22/98
APPLETON	NE	145.150	WD9FLJ/R	O PL107.2 CA EZAR	* O CO REDX			04/04/98
APPLETON	NE	145.330	W9RIC/R	O PL100.0	* F V VHF A			05/11/98
APPLETON	NE	146.655	KB9ENO/R	O PL107.2 AEDSLWXRA*	ECR LTD			04/07/98
APPLETON	NE	146.760	K9QOQ/R	O PL100.0 DS EX RA	* F V VHF A			03/31/98
APPLETON	NE	147.195	N9PAO/R	O PL107.2 L	N.X.C.			06/20/97
APPLETON	NE	442.125	W9RIC/R	O PL100.0 CA L	* W9RIC			05/11/98
APPLETON	NE	442.150	KB9QXJ/R	O	* KB9QXJ			08/23/98
APPLETON	NE	443.650	W9IEI/R	O R	* F V VHF			03/31/98
ASHLAND	NW	52.950	KB9AMY/R	O CA E L X Z R	* KB9AMY			04/29/98
ASHLAND	NW	145.350	KB9AMY/R	O CA E L X Z R	* KB9AMY			04/29/98
ASHLAND	NW	442.350	KB9AMY/R	O CA E L X Z R	* KB9AMY			04/29/98
ASHWAUBENON	NE	146.835	KB9DSV/R	O PL107.2	* KB9DSV			08/19/98
ASHWAUBENON	NE	223.940	KB9DSV/R	O	* KB9DSV			08/19/98
BALDWIN	NW	146.685	WB9OND/R	O E L X R A	SARCASM			09/15/96
BALSAM LAKE	NW	147.195	N9QFW/R	O PL110.9	N9QFW			06/06/96
BALSAM LAKE	NW	224.900	N9QFW/R	O PL110.9	N9QFW			06/06/96
BALSAM LAKE	NW	443.900	N9QFW/R	O PL110.9	N9QFW			06/06/96
BARABOO	SC	145.310	N9KXX/R	O PL123.0	N9KXX			07/11/97
BARABOO	SC	146.880	WR9ABE/R	O PL123.0 DS E XWX	* C.W.R.A.			05/15/98
BARABOO	SC	147.315	N9QIP/R	C PL100.0 E X WIN	* N9QIP/WIN			05/11/98
BARABOO	SC	421.250	KB9SFS/R	O ATV	* B.A.T.S.			05/22/98
BARABOO	SC	443.900	N9QIP/R	O PL100.0 E X L	* W.I.N.			05/11/98
BARABOO	SC	421.250	KB9SFS/R	O ATV	* B.A.T.S.			05/22/98
BAYFIELD	NW	146.610	W9BCY/R	O CA	NLAND ARC			05/30/96
BELDENVILLE	NW	147.225	N9NIC/R	O PL E A	* B.A.T.S.			05/11/98
BELDENVILLE	NW	224.840	N9NIC/R	O PL E A	* B.A.T.S.			05/11/98
BELDENVILLE	NW	443.225	N9NIC/R	O PL E A	* B.A.T.S.			05/11/98
BELOIT	SC	146.670	WA9JTX/R	O PL123.0 E R #77	* BELOIT AR			07/10/98
BELOIT	SC	224.300	N9BUL/R	O TT	* C.B.S. RG			04/02/98
BERLIN	SC	145.210	N9PAA/R	O PL123.0 X	* N9PAA			07/10/98
BERLIN	SC	443.850	N9AOZ/R	O PL123.0 A E X	* N9AOZ			05/10/98
BIG FLATS	NC	146.625	N9WYQ/R	O PL114.8 TT E	* N9WYQ			05/15/98
BLACK RIVER F	NE	443.600	N9JCX/R	O DS E PT-TM	* N9JCX			05/11/98
BLUFF SIDING	SW	146.835	WB9BDI/R	O	* WINON ARC			05/11/98
BLUFF SIDING	NW	1253.250	W5TWR/R	O ATV RPTR	* WARC			05/11/98
BURLINGTON	SE	442.125	N9RNA/R	O SNP PL114.8	* N9RNA			06/19/98
CALEDONIA	SE	442.500	WA9KVE/R	O	WA9KVE			03/18/96
CAMERON	NW	146.715	WB9PRI/R	O E	WB9PRI			12/01/96
CAMERON	NW	443.650	N9KOR/R	O PL110.9 E	* N9KOR			05/11/98
CARLSVILLE	NE	146.730	W9A1Q/R	O PL107.2	* DOOR CO			04/02/98
CEDARBURG	SE	146.970	W9CQO/R	O PL127.3 CA E X Z	* O.R.C.			05/11/98
CEDARBURG	SE	442.100	KA9QLP/R	O PL127.3	* CFD/WERA			04/02/98
CEDARBURG	SE	443.750	WA9POV/R	O PL114.8	* WA9POV			06/12/98
CHIPPEWA FALL	NW	146.880	WA9PAM/R	O	* WA9PAM			05/11/98
CHIPPEWA FALL	NW	147.375	WD9HFT/R	O PL110.9 CA DS EX	* WD9HFT			05/11/98
CHIPPEWA FALL	NW	442.300	WD9HFT/R	O PL110.9 DS E	* WD9HFT			05/11/98
CHIPPEWA FALL	NW	444.000	WD9HFT/R	O PL110.9	* WD9HFT			05/11/98
CLEVELAND	NE	444.175	K9SJR/R	O PL107.2 CA ELWXA	* K9SJR ARES			06/19/98
CLINTON	SC	146.715	K9RIJ/R	O A TT E	* K9RIJ			08/04/98
CLINTON	SC	443.175	K9RIJ/R	O A E	* K9RIJ			08/04/98
COLFAX	NW	444.350	WA9PAM/R	O PL100	* WA9PAM			05/11/98
COLGATE	SE	444.025	WX9Z/R	O PL127.3	* WX9Z			08/23/98
CRIVITZ	NE	145.470	K9ARF/R	O PL107.2 TT	ATHELSTAN			04/06/97
CUDAHY	SE	224.900	NK9G/R	O A TT L Z	* NK9G			08/26/98
CUDAHY	SE	443.950	AA9JR/R	O PL127.3	AA9JR			03/07/97
DELAFIELD	SE	146.820	KE9QP/R	O PL127.3 CA EX Z	SEWFARS			10/29/97
DELAFIELD	SE	444.125	KE9QP/R	O PL114.8 AEZX CA	SEWFARS			10/29/97
EAGLE RIVER	NC	52.850	N9KXS/R	O	* N9KXS			01/29/98
EAGLE RIVER	NC	145.390	KD9PT/R	O CA DS E Z	* KD9PT			05/11/98
EAGLE RIVER	NC	444.400	KA9UCE/R	O PL114.8 AEZX AR	E.S.R.G.			01/01/96
EARL	NW	147.390	N9PHS/R	O	* N9PHS			05/11/98
EAU CLAIRE	NW	146.910	K9UXP/R	O PL110.9 A E X	E C ARC			04/06/97
EAU CLAIRE	NW	147.240	WJ9R/R	O PL110.9 A E	E C ARC			04/06/97
EAU CLAIRE	NW	223.820	N9RSU/R	O PL67.0 TT A 911	* N9RSU			04/04/98
EAU CLAIRE	NW	443.300	KB9R/R	O PL110.9 E	* KB9R			04/02/98
ELKHORN	SE	146.865	KB9LBR/R	O CA E	* LAARC			04/02/98
FITCHBURG	SC	444.000	KA9VDU/R	O PL114.8 L X WX	* BURG			05/11/98
FOND DU LAC	NE	145.430	K9IA/R	O PL107.2	* F.A.R.A.			05/11/98
FOND DU LAC	NE	147.090	WD9ESH/R	O PL107.2	* FDL. RPT			03/01/98
FOND DU LAC	NE	223.900	WA4COY/R	O PL107.2 CA EXWX	* WA4COY			04/02/98
FOND DU LAC	NE	444.150	WA4COY/R	O PL107.2 WX	* WA4COY			04/02/98
FORT ATKINSON	SC	53.090	AA9AD/R	O PL103.5 LXWX RA	* S.W.R.G.			06/24/98
FORT ATKINSON	SC	145.490	WB9EMR/R	O A TT E L A WX Z	TCARC			10/29/97
FORT ATKINSON	SC	224.420	N9DTT/R	O PL123.0 A TTZELR	FT AT RG			10/29/97
FORT ATKINSON	SC	442.300	N9QIP/R	C PL100.0 E L X	* W.I.N.			05/11/98
FORT ATKINSON	SC	442.750	N9DTT/R	O PL123.0 ATTCLR	FT AT RG			10/29/97
FRANKSVILLE	SE	223.800	KC9NG/R	O PL127.3	* KC9NG			05/11/98
FRIENDSHIP	SC	147.030	N9TD/R	O PL123.0	* N9TD			05/22/98
GALESVILLE	SW	442.500	N9QIP/R	O PL100.0 TT X R L	* N9QIP			05/11/98
GENOA CITY	SE	443.925	K9XN/R	O PL114.8 X	* LAKARS			03/05/98
GERMANTOWN	SE	224.180	W9CQO/R	O E	* O.R.C.			05/11/98
GERMANTOWN	SE	444.525	WD9IEV/R	O PL114.8	* WD9IEV			04/02/98
GILLINGHAM	SC	147.120	K9DB/R	O	K9DB			03/24/97
GRANTON	NC	146.775	N9RRF/R	O WX	* N9RRF			05/15/98
GREEN BAY	NE	147.075	N9PAY/R	O PL107.2	AHSTC			05/09/97
GREEN BAY	NE	147.120	K9GB/R	O PL107.2 CADSEXZ	* G B M&K			04/02/98
GREEN BAY	NE	147.270	KE9PW/R	O PL107.2	* NEWRL			09/29/98
GREEN BAY	NE	147.360	K9EAM/R	O A E WX A	* G B M&K			04/02/98
GREEN BAY	NE	224.140	W9HAM/R	O PL107.2 A E L Z	RADACTV			04/06/97
GREEN BAY	NE	443.500	KB9AMM/R	O PL107.2 CA E	* TEARUG			06/19/98
GREEN BAY	NE	443.750	N9IEI/R	O Linked to 146.685*	RRU			09/29/98

Location	Rg	Output	Call	Access	Update	OK=*	Sponsor	Updated
GREEN BAY	NE	444.200	WB9VJV/R	C	WB9VJV			10/29/97
GREEN BAY	NE	444.775	K9EAM/R	O PL107.2 CA E Z X *	G B M&K			06/05/98
GREEN LAKE	SC	146.955	KB9WC/R	O	G FOX ARC			04/06/97
GREEN LAKE	SC	444.400	KB9WC/R	O E X A WX	G FOX ARC			04/06/97
GREENWOOD	NC	145.490	W9FPE/R	O PL110.9 E	* W9FPE			05/11/98
HALES CORNERS	SE	145.170	W9FK/R	O A Z	WARAC			12/01/96
HARTFORD	SE	147.285	K9MLD/R	O PL103.5 E	* K9MLD			08/19/98
HAYWARD	NW	147.255	W9NNS/R	O PL110.9 A E Z LX	* NVMA			08/19/98
HAYWARD	NW	444.850	N9EGE/R	O PL110.9	* N9EGE			04/02/98
HILBERT	NE	53.170	KN9P/R	O	* CARES			04/04/98
HILBERT	NE	146.895	N9OBG/R	O PL146.2	* N9OBG			05/11/98
HIXTON	SW	146.940	KC9YE/R	O X	* T-J RA			06/19/98
HOLCOMBE	NW	52.810	N9LIE/R	O PL110.9 E X	* N9LIE			05/11/98
HOLCOMBE	NW	145.470	N9LIE/R	O PL110.9 E L X	* N9LIE			05/11/98
HOLCOMBE	NW	147.345	N9QWH/R	O PL136.5 L	* N9QWH			08/19/98
HOLCOMBE	NW	444.525	N9LIE/R	O PL110.9 E L X	* N9LIE			05/11/98
HOLLANDALE	SC	146.655	KB9AKM/R	O PL123.0 E	* HVARC			08/19/98
HOLLANDALE	SC	444.550	N9QIP/R	C PL100.0 E X L	* N9QIP/WIN			05/11/98
HUDSON	NW	145.130	W9AVX/R	O CA R E	* SCC RACES			04/02/98
HUDSON	NW	146.955	K9LAV/R	O TTON787 TTOFF1787*	K9LAV			06/19/98
IOLA	NC	147.165	N9NOJ/R	O PL103.5 EXDSWX	* I.RP.GP.			05/11/98
IOLA	NC	444.650	N9NOJ/R	O PL114.8	* N9NOJ			04/02/98
IRMA	NC	146.730	K9GTQ/R	O	K9GTQ			05/09/97
IRMA	NC	146.970	KC9NW/R	O	* KC9NW			09/01/98
JANESVILLE	SC	53.190	KF9RU/R	O PL123.0 E	KF9RU			05/20/97
JANESVILLE	SC	145.450	WD9ACY/R	O	R.A.T.S.			05/09/97
JANESVILLE	SC	147.075	K9FRY/R	O PL123.0	* K9FRY			04/02/98
JANESVILLE	SC	444.750	WB9JU/R	O PL123.0	* WB9JU			08/11/98
JANESVILLE	SC	916.000	N9HF/R	O FM VIDEO	N9HF			03/07/97
JUNEAU	SC	146.640	W9TCH/R	O PL123.0 AELWXZAR	* ROCK R RC			05/11/98
KAUKAUNA	NE	444.450	ND9Z/R	O PL107.2 CA TT	* ND9Z			04/04/98
KENOSHA	SE	224.800	K9RI/R	O PL114.8	* K.A.R.S.			04/04/98
KENOSHA	SE	442.000	W9UDU/R	O PL127.3	* LAKESHORE			05/11/98
KENOSHA	SE	442.200	N9OIG/R	O PL114.8 DS L X	N9OIG			05/20/97
KENOSHA	SE	444.150	KB9KUT/R	O PL114.8	* KB9KUT			08/11/98
KEWAUNEE	NE	146.805	WB9RJB/R	O PL107.2	* WB9RJB			02/07/97
LA CROSSE	SW	146.700	WA9HCZ/R	O RTTY 2125MARK	* WA9HCZ			04/02/98
LA CROSSE	SW	146.760	K9CUT/R	O	* LaCrossRA			06/19/98
LA CROSSE	SW	146.970	K9JYB/R	O A E X Z WX RA	* RVLNDARC			04/02/98
LA CROSSE	SW	147.090	N9ETD/R	O	* N9ETD			05/11/98
LA CROSSE	SW	444.475	W9LZQ/R	O A A/A Z	* RARC			04/02/98
LA CROSSE	SW	444.600	WA9HCZ/R	O	* ONA ARC			04/02/98
LA VALLE	SC	442.400	W9EBF/R	O PL123.0 E P	* W9EBF			05/



Location	Kg	Output	Call	Access	Update	OK=*	Sponsor	Updated	Location	Kg	Output	Call	Access	Update	OK=*	Sponsor	Up	ted
MILWAUKEE	SE	443.050	N9OSK/R	O	PL100.0	CA DS WX	N9OSK	07/10/97	SHELL LAKE	NW	147.045	N9PHS/R	O	E AR WX		* NORWESCO	05	/98
MILWAUKEE	SE	443.150	W9KHO/R	O	PL114.8		* MICORS	02/17/98	SHELL LAKE	NW	442.150	N9PHS/R	O	WX		* NORWESCO	05	/98
MILWAUKEE	SE	443.550	N9LKH/R	O	PL127.3	A X L Z	N9LKH	05/20/97	SIREN	NW	146.625	N9PHS/R	O			* NORWESCO	05	/98
MILWAUKEE	SE	443.800	N9GMT/R	O	PL114.8	OAEZXL	FM38	09/29/97	SISTER BAY	NE	147.180	W9AIQ/R	O	PL107.2	CA E	DC ARC	09	'97
MILWAUKEE	SE	444.200	K9HXA/R	C	PL114.8	CA L	* K9HXA	05/11/98	SOLO SPRINGS	NW	145.490	K9ASC/R	O	A E Z		* DC RACES	08	'98
MILWAUKEE	SE	444.300	W9WK/R	O	PL114.8	L Z AR	ARES	01/01/96	SPOONER	NW	147.135	KE6WF/R	O			* KE6WF	04	'98
MILWAUKEE	SE	444.325	N9CFG/R	O	PL127.3	CA E	* W.E.R.A.	05/11/98	SPOONER	NW	444.800	KE6WF/R	O			* KE6WF	04	'98
MILWAUKEE	SE	444.450	KA9QMD/R	O	PL114.8	A	KA9QMD	03/10/97	SPOONER/HERTE	NW	145.190	KB9OHN/R	C	CA E Z L		* BARS	05	'98
MILWAUKEE	SE	444.800	K9HXA/R	C			* K9HXA	05/11/98	SPOONER/HERTE	NW	147.300	KB9OHN/R	O	PL110.9	CA E Z L	* BARS	05/1	'98
MILWAUKEE	SE	444.850	WB9TRO/R	C	E CA PL L X		* WERA	04/02/98	SPOONER/HERTE	NW	224.500	KB9OHN/R	O	A E Z		* BARS	05/11	'98
MILWAUKEE	SE	444.875	WB9TRO/R	O	PL127.3	E	* W.E.R.A.	04/02/98	SPOONER/HERTE	NW	443.500	KB9OHN/R	O	A E L Z		* BARS	05/11	'98
MILWAUKEE	SE	444.925	N9NGI/R	O	PL127.3	CA E Z	* N9NGI	05/11/98	STEVENS POINT	NC	146.670	WB9QFW/R	O	A E Z		CWRA LTD	04/06	'97
MONROE	SC	145.110	NR9W/R	O	PL114.8		* G C ARA	04/02/98	STEVENS POINT	NC	146.985	W9NN/R	O	O A E Z TT		* CWRA LTD	05/11	'98
MOUNT STERLIN	SW	147.360	W9DMH/R	O	E X WX		* W9DMH	07/10/98	STEVENS POINT	NC	444.700	KC9NW/R	O	E CA L		* KC9NW	09/01	'98
NECEDAH	SE	444.125	K9UJH/R	O	PL123.0		K9UJH	10/29/97	STURGEON BAY	NE	147.210	W9AIQ/R	O	CA A E X Z		DC ARC	10/27	'97
NEW AUBURN	NW	146.745	N9LIK/R	O	PL110.9	A E	* N9LIK	05/11/98	STURGEON BAY	NE	444.000	K9JMK/R	O			* K9JMK	04/02	'98
NEW BERLIN	SE	442.400	W9EBF/R	O	PL127.3		* W9EBF	05/11/98	STURGEON BAY	NE	920.000	K9JMK/R	O			* K9JMK	04/02	'98
NEW BERLIN	SE	443.300	KG9CS/R	O	PL127.3	A E TT	KG9CS	06/09/98	STURGEON BAY	NE	1282.100	K9JMK/R	O	EXPERIMENTAL		* K9JMK	04/02	'98
NEW HOLSTEIN	NE	147.300	K9LGU/R	O	A E Z		* C.A.R.E.S	05/11/98	SUPERIOR	NW	146.760	W9BWK/R	O			* T P A RA	05/11	'98
NEW LONDON	NC	145.410	KB9QWC/R	O	PL114.8		* KB9QWC	07/01/98	SUPERIOR	NW	146.820	W9VDM/R	O	PL203.5	A DS	* T P T G	05/11	'98
NEW RICHMOND	NW	145.270	N9LIE/R	O	PL110.9	L X	* N9LIE	05/11/98	SUPERIOR	NW	444.900	W9AKLM/R	O	A E		WITC ARC	03/11	'97
NEW RICHMOND	NW	444.675	N9LIE/R	O	PL110.9	L X	* N9LIE	05/11/98	TIGERTON	NC	147.135	KF9TS/R	O	X WX		KF9TS	05/14	'97
NORTH FREEDOM	SC	443.675	KD9UJ/R	O	PL114.8	CAELXWX	* S.W.R.G.	06/24/98	TOMAH	SW	145.390	N9BOE/R	O	PL131.8	CA EXZRA	* N9BOE	04/04	'98
OCOMOWOC	SE	442.025	N9JUJ/R	O	PL114.8		N9JUJ	10/29/97	TOMAH	SW	147.000	N9UOM/R	O			* N9UOM	03/23	'98
OSHKOSH	NE	147.240	KA9JAC/R	O	CA E Z RA WX		WIN CTY E	05/10/97	TOMAH	SW	443.700	N9UOM/R	O			* N9UOM	03/23	'98
OSHKOSH	NE	147.345	N9GDY/R	O	PL107.2		* SOLAR	04/02/98	TOMAH	SW	444.800	N9QIP/R	C	PL100.0	E X L	* W.I.N.	05/11	'98
OSHKOSH	NE	442.075	N9GDY/R	O	PL107.2		* SOLAR	04/02/98	TOMAH	SW	444.850	KB9EBX/R	O	PL167.9		* KB9EBX	01/23	'97
OSSEO	NC	145.330	N9LIE/R	O	PL110.9	L X	* N9LIE	05/11/98	TOMAHAWK	NC	145.430	N9CLE/R	O	A E Z911 X		* TOM RP A	05/11	'98
OSSEO	NC	444.200	N9LIE/R	O	PL110.9	L X	* N9LIE	05/11/98	TOMAHAWK	NC	223.760	N9CLE/R	O			* TOM RP A	05/11	'98
PARK FALLS	NC	147.000	KA9EOK/R	O	PL110.9		* PRICE CRA	06/19/98	TOMAHAWK	NC	444.575	N9CLE/R	O			* N9CLE	05/11	'98
PARK FALLS	NC	444.750	KA9EOK/R	O			* PRICE CRA	06/19/98	TREBOR	SE	442.600	KA9VZD/R	O	PL114.8		* KA9VZD	09/29	'98
PEPIN	NW	145.350	KB9S/R	O			WAB ARS	10/08/97	UNION GROVE	SE	146.745	N9OIG/R	O	PL127.3	E	* N9OIG	03/05	'98
PEWAUKEE	SE	147.210	WB9AKC/R	O	PL127.3	TT	* WCTC ARC	07/10/98	UNION GROVE	SE	442.250	N9OIG/R	O	PL114.8	X L	* N9OIG	03/05	'98
PEWAUKEE	SE	443.125	WB9AKC/R	O	PL114.8/127.3	TT	* WCTC ARC	07/10/98	WABENO	NE	145.110	KF9DB/R	O	PL107.2	E L147.27*	NEWRL	09/29	'98
PLAIN	SC	442.100	KA9VDU/R	O	PL114.8	L X WX	* BURG	05/11/98	WAUKESHA	SE	147.390	N9KS/R	O	PL141.3		* EARS/KMRA	05/11	'98
PLATTEVILLE	SW	145.270	KA9WBX/R	O	A E		UWP ARC	06/17/96	WAUPACA	NC	146.925	N9BKJ/R	O	PL114.8	A Z R E	* N9BKJ	06/19	'98
PLYMOUTH	NE	147.060	WE9R/R	O	PL107.2		* SHEB.CO	06/19/98	WAUPACA	NC	147.390	W9FDC/R	O	X A R WX		* WARC	06/19	'98
PLYMOUTH	NE	444.100	KD9TZ/R	O	PL107.2		* S CTY 440	04/02/98	WAUPACA	NE	444.900	N51IA/R	O	PL114.8		N51IA	05/14	'97
PLYMOUTH	NE	444.350	WE9R/R	O	PL114.8		* WERA	06/19/98	WAUSAU	NC	52.830	N9MEA/R	O	PL114.8	E	N9MEA	03/20	'97
PORT WASHINGT	SE	147.330	WB9RQR/R	O	PL127.3	CA EXZWR*	OZARES	04/02/98	WAUSAU	NC	52.890	W9SM/R	O	PL114.8		* W.V.R.A.	07/10	'98
PORT WASHINGT	SE	443.525	WB9RQR/R	O	PL114.8	CA EXZWR*	OZARES	04/02/98	WAUSAU	NC	53.450	W9BCC/R	O	PL103.5		* R.M.R.A.	09/01	'98
PORTAGE	SC	224.660	KE9KX/R	O	TT-200	IF QRM	* KE9KX	05/11/98	WAUSAU	NC	146.640	W9SM/R	O	PL114.8	AELXZ911	* W.V.R.A.	07/10	'98
PORTAGE	SC	442.950	KB9KIR/R	O	PL123.0	E X	* DRAKE R.C	05/11/98	WAUSAU	NC	146.715	KF9RU/R	O	PL114.8		KF9RU	04/06	'97
POUND	NC	146.685	KA9JVH/R	O	PL107.2	DS L	* KA9JVH	09/29/98	WAUSAU	NC	146.820	W9BCC/R	O	PL114.8	CA E X L	* R.M.R.A.	09/01	'98
PRAIRE DU SAC	SC	444.250	N9KXX/R	O	PL123.0		BSRG	10/29/97	WAUSAU	NC	147.060	W9KRY/R	O	PL114.8	CA E X	* KC9NW	09/01	'98
PRAIRE FARM	NW	147.075	K9ST/R	O			* K9ST	04/04/98	WAUSAU	NC	224.640	W9SM/R	O	PL114.8	AELXZ911	* W.V.R.A.	07/10	'98
RACINE	SE	147.270	W9UDU/R	O	CA E Z TT A		* LAKESHORE	05/11/98	WAUSAU	NC	421.250	K9PT/R	O	EL AM-ATV		RMATS	06/04	'97
RACINE	SE	444.050	KA9LOK/R	O			KA9LOK	02/08/97	WAUSAU	NC	920.000	K9PT/R	O	EL FM-ATV		RMATS	06/04	'97
RACINE	SE	444.950	WA9BDX/R	O	PL114.8	E	* WA9BDX	04/02/98	WAUSAU	NC	442.200	N9QIP/R	O	PL100.0		* N9QIP	05/11	'98
RHINELANDER	NC	145.210	KA9BHL/R	O	CA E L145.130		* NWARC	05/11/98	WAUSAU	NC	443.325	KA9HQE/R	O			* KA9HQE	08/23	'98
RHINELANDER	NC	145.490	KB9AZM/R	O	PL114.8		* KB9AZM	05/15/98	WAUSAU	NC	443.750	KC9NW/R	O	PL171.9	CA X L E	* KC9NW	09/01	'98
RHINELANDER	NC	146.940	W9ZZZ/R	O	A E X Z WX AR		* RHIN RP A	04/02/98	WAUSAU	NC	443.950	KC9NW/R	O			* KC9NW	09/01	'98
RHINELANDER	NC	147.360	KA9TCC/R	O	114.8	A	KA9TCC	03/10/97	WAUSAU	NC	444.100	W9SM/R	O	PL114.8	AELXZ911	* W.V.R.A.	07/10	'98
RICE LAKE	NW	145.110	N9QWH/R	O	PL110.9	AELXZWR*	N9QWH	08/19/98	WAUSAU	NC	444.300	W9BCC/R	O	PL114.8	CA E X	* R.M.R.A.	09/01	'98
RICE LAKE	NW	147.030	WB9WFG/R	O	PL110.9		WB9WFG	04/06/97	WAUSAU	NC	906.000	W9BCC/R	O	X		* R.M.R.A.	09/01	'98
RICHLAND CENT	SW	146.910	WB9SLI/R	O	PL131.8		* P V RP A	02/17/98	WAUSAU	NC	1250.000	KB9RFT/R	O	EL FM-ATV		RMATS	06/04	'97
RIVER FALLS	NW	443.800	K9ZMA/R	O			K9ZMA	05/30/97	WEST ALLIS	SE	224.520	KA9JCP/R	O	CA E		* KA9JCP	04/02	'98
ROBERTS	NW	147.330	KA9YRV/R	O	PL110.9		* SCVRA	08/19/98	WEST BEND	SE	223.820	N9NBN/R	O	PL114.8	CA	N9NBN	03/03	'97
ROBERTS	NW	443.325	N9NGH/R	O	PL67.0		* N9NGH	05/11/98	WEST MILWAUKE	SE	147.135	NY9T/R	O	PL141.3		NY9T	04/07	'97
RUBICON	SC	145.350	WB9KPG/R	O	A Z		WB9KPG	10/29/97	WEYERHAUSER	NW	145.170	KA9PZX/R	O	E		MAGIC	06/10	'96
SAINT FRANCIS	SE	444.825	WJ9Z/R	O	PL127.3	A TT Z	WJ9Z	04/06/97	WILLIAMS BAY	SE	443.275	K9RC/R	O	PL127.3		* K9RC	08/19	'98
SAINT LAWRENC	SE	146.730	N9LZW/R	O	PL127.3	X	* W.C. ARC	04/04/98	WINNECONNE	NE	224.500	KB9IE/R	O	CA TT L X		* P.G.R.A.	03/19	'96
SAYNER	NC	145.130	KB9CBL/R	O	E L145.210		* NWARC	05/11/98	WISCONSIN RAP	NC	146.790	W9DQA/R	O	PL114.8	CAEXZAR	* MIDST RA	09/03	'98
SHAWANO	NC	145.350	KA9NMY/R	O	PL114.8	E X R WX	* KA9NMY	08/19/98	WISCONSIN RAP	NC	147.330	K9PJB/R	O	PL114.8	E	* WI AIR RA	04/02	'98
SHAWANO	NC	146.865	KB9DAC/R	O	PL114.8		KB9DAC	04/06/97										
SHAWANO	NC	224.480	KG9AL/R	O	PL114.8	E R	KG9AL	04/06/97										
SHAWANO	NC	442.050	KB9DAC/R	O	PL114.8	R WX	KB9DAC	05/20/97										
SHEBOYGAN	NE	147.255	N9REH/R	O	PL127.3	CADSEL	N9REH	05/07/97										
SHEBOYGAN	SE	442.900	AC9A/R	O	PL107.2		* AC9A	05/11/98										
SHEBOYGAN	NE	444.600	N9REH/R	O	PL114.8	DS E	N9REH	05/09/97										

List provided by Wisconsin Association of Repeaters  
Printed by permission  
Badger State Smoke Signals  
December 1998

# What ddyaknow?

## BSSS December 1998 Quiz

The following quiz is presented for your edification, information, frustration, and general disgust. However, it is not without its reward. Here are the rules and the prizes: All entries MUST be on this form, clipped from BSSS. No photocopied entries will be accepted, and no email or FAXed entries will be accepted. Entries will be accepted up to and including December 19, 1998. They must be mailed to BSSS Quiz, Jim Romelfanger, K9ZZ, 412½ Ash Street, Baraboo WI 53913-2501. They will be tossed in a box. The first one drawn having all questions answered correctly will win \$15.00, a \$25.00 gift certificate from MFJ Enterprises, and a NASA photo. No entries received after December 19, 1998 will be accepted. No one on the BSSS staff or its editorial board are eligible, nor anyone involved with production and/or printing. Good luck! And, more quizzes will be coming in 1999.

1. Where is the world's the largest Amateur Radio dealer?

2. How many bits are there in a normal-size byte?

3. Who sponsors the Wisconsin QSO Party?

4. In the following circuit, what is the impedance at resonance?

$$\begin{array}{c}
 \text{---} \backslash \text{---} / \text{---} \\
 \text{R} = 1\Omega \quad \text{X}_C = 1\Omega \quad \text{X}_L = 1\Omega
 \end{array}$$

5. What does the term "TNC" mean?

6. Who was the first human being to operate Amateur Radio in space (name and call)?

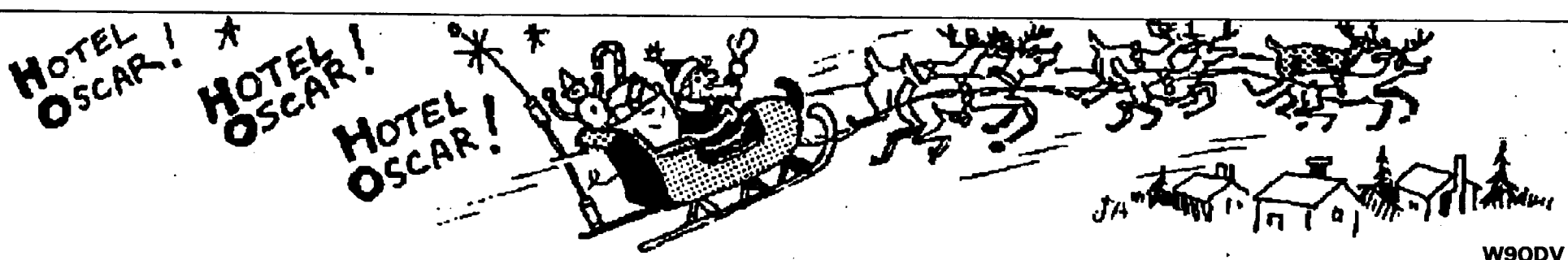
7. What states make up the Central Division of the American Radio Relay League?

8. Which layer of the ionosphere produces usually short-term but very good propagation over greater than usual distances on the 6 meter band?

9. What is the purpose of a duplexer?

10. What is the primary purpose of a repeater?





# FCC forum focuses on Y2K readiness of dispatch systems

The FCC is "particularly concerned" about the Year 2000 (Y2K) computer date change "integrity" of the communications systems used by police, fire, emergency medical, and other public safety service providers, according to Commissioner Michael K. Powell. Speaking at an FCC Y2K forum on emergency response communications in Washington, Mr. Powell said that "based upon the information collected" by the Commission from the emergency response community, the radio systems and conventional radios used by most of the public safety sector are "generally not at risk for Y2K failure."

He warned, however, that the "same cannot be said for many of their computer-aided dispatch systems, records management systems, control systems, and electronic security systems." Mr. Powell said local exchange carriers (LECs) should focus on (1) the general functioning of their emergency response networks and (2) preparing for Y2K-induced overloads and disruptions that "may require greater stresses on the networks."

Representatives from LECs and emergency communications and dispatch equipment industries said they have centered their Y2K emergency response compliance efforts around enhanced "911" (E911) systems. Bernd E. Pfeiffer, Bell Atlantic Corp.'s executive director-regulatory policy, said the company is on pace to finish upgrading its E911 platforms by the third quarter of 1999. He said Bell Atlantic has been working with about 1,200 public safety answering points (PSAPs) in its service territory to ensure that their E911 systems are Y2K compliant. Bell Atlantic also is urging customers and the independent telephone companies in its service region to evaluate and remediate their own E911 equipment, Mr. Pfeiffer added.

Laurie Deffenbaugh, director of Y2K communications at U S WEST, Inc., said the company's E911 compliance efforts are very similar to Bell Atlantic's plans. She said U S WEST's Y2K emergency response efforts involve the company's E911 equipment vendors and "customers where we are providers of the equipment." Ms. Deffenbaugh added that U S WEST has been working with the power providers in its operating region to prepare for potential Y2K-induced electricity outages.

Ed Becker, Plant Equipment, Inc.'s project manager-integration services, said some E911 equipment failures may occur as early as Jan. 1, 1999. Mr. Becker said Plant Equipment, which he called a "dominant provider" of E911 network equipment to the Bell companies and GTE Corp., was testing its equipment in conjunction with the Bells. S. Robert (Bob) Miller, director of technical issues at the National Emergency Number Association (NENA), said the organization plans to modify its PSAPs standards to include Y2K compliance statements.

via Dave Barquist, K9PAK

# ARRL ham gear arrives in Honduras

Portable and mobile VHF transceivers shipped by the ARRL have arrived in flood-stricken Honduras to help in the ongoing relief effort.

"Thank you for all your support and help on this great ordeal our country has been forced to undertake," said Omar Paredes, HR1OP, in an e-mail message November 11 to ARRL Headquarters. Paredes is secretary of the Club de Radio Aficionados Central de Honduras (CRACH) in Tegucigalpa, which accepted the equipment.

Hams in Honduras who still have operational stations or gear have been using Amateur Radio to maintain communication, since telephone service is erratic or out completely. "We are working very hard trying to provide communication within our country as well as with families abroad that need to know about their relatives," Paredes said. Stations in Honduras have been operating off batteries or from gasoline generators.

The League also sent a 2-meter repeater, diplexer and antenna to a club in La Ceiba to restore communication between the mainland and the islands of Roatan and Guanaja. The equipment is part of the League's disaster communications inventory, and some of it has been seen service in other weather disasters.

Relief agencies from the US and elsewhere are undertaking massive efforts to feed, clothe, and shelter the thousands of flood victims, and some agencies have been making use of Amateur Radio for communication. The storm left more than 10,000 dead and one million homeless in Honduras, Nicaragua, Costa Rica and Guatemala. The storm left the communications and public utilities infrastructure in shambles.

The Salvation Army Team Emergency Radio Network (SATERN) continues to operate on HF. The Amateur Radio net is providing an information service to help families search for missing relatives, relaying information between Central and North America. SATERN also is handling logistical and emergency needs traffic. The disaster has revived the phone patch in this Internet era. "Since my involvement, I've handled about 10 phone patches between the folks in Honduras and

various places from Maine to Washington state," said Harry Bryant, AA2WN, in New Jersey, who's been active on SATERN. Charles Lassiter, KD5AHW, in Texas, reports he and Bob Sanford, KC5SMC, have been relaying traffic to and from the Mercy Ships/Mercy Ministries in Tyler, Texas, to their orphanage and mission in Honduras.

Individuals in the US with relatives in the affected area may submit a health-and-welfare inquiry via e-mail to SATERN to be relayed via Amateur Radio. Requests should include the name(s) of the person(s) being inquired about; their last known address; your name, address, and telephone number; and your e-mail address. Send your inquiry to [qnwa4bzy@mindspring.com](mailto:qnwa4bzy@mindspring.com). A form also is available on the SATERN Web site at <http://www.angelfire.com/il/satern411/emailfrm.html>.

The FCC declared the SATERN 14.265 MHz frequency off-limits to hams who are not involved in handling emergency traffic. The mandatory communications emergency was declared to support the Central America disaster relief effort. Under the order, amateurs are required to refrain from using 14.265 MHz (plus or minus 3 kHz) unless they are taking part in the handling of emergency traffic. The order remains in effect until rescinded.

The ARRL Letter

**Happy New Year!**

**SEWFARS SWAPFEST**

HAMRADIOS COMPUTERS ELECTRONICS

**SUNDAY  
March 7, 1999  
8:00 AM - 2:00 PM**

**SET-UP STARTS AT 6:00 AM  
WAUKESHA COUNTY EXPO CENTER  
WAUKESHA, WISCONSIN**

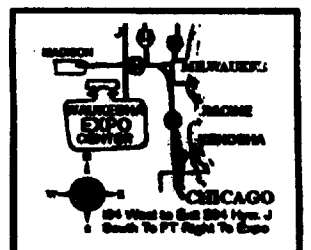
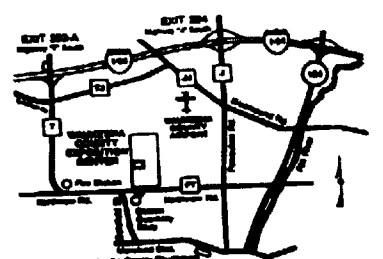
**ADMISSION \$4.00 ADVANCE - \$5.00 AT DOOR  
RESERVED TABLES PER 4 ft. \$5.00 - \$7.00 AT DOOR  
ELECTRICAL OUTLET \$5.00  
AMATEUR LICENSE EXAMS**

**RESERVATION DEADLINE IS FEB. 15, 1999 order early!**  
Mail with S.A.S.E. - Make Check Payable to SEWFARS Inc. Mail to P.O. Box 102 Delafield, WI 53018  
For more information Phone (414) 835-7035



TALK IN 146.820 - PL 127.3

**WAUKESHA EXPO CENTER**



Have you considered becoming an ARRL Volunteer Examiner?

**ARRL VEC**

If you are 18 or older, and are presently a General, Advanced, or Extra class licensee, the ARRL/VEC would be glad to hear from you. Feel free to contact the ARRL/VEC at (800) 927-7583 and request our Prospective VE Packet. Very 73 to all my friends in Wisconsin!

Bart Jahnke, W9JJ/1 • ARRL/VEC Manager

# PARTICIPATING CLUBS AND ORGANIZATIONS

## Wisconsin Valley Radio Association

Kim Kunze, N9SDL, Secretary

P.O. Box 363 • Wausau, WI 54402

**Six Meter Repeater: 51.19 Input/52.89 Output**

### Meeting Minutes November 3, 1998

Meeting was called to order by N9SDI. Members present were:

N9NMH	N9IAB	N9TTA
N9MEA	KB9RXA	KB9DED
KB9FRB	KB9DZG	W9VHA
W9WW	KB9RXB	N9NRC
N9NQW	N9PHC	N9SDL
KA9DQQ	KA9KJY	N9LIA
W9ZZJ	W9QAH	W9QH
N9NQH	WB9YZR	KB9RFB
K9PT	N9NQN	KB9TIY
N3FDE	N9FOL	N9WPH
N9ZML		KB9JMB

Minutes approved: W9WW and N9-NMH. Treasurer's report approved: W9WW and N9LIA

Upcoming events: Badger State Winter Games and Special Olympic Winter Games are up and coming. Both events will be in need of radio operators. If you are interested, a sign up list will be available at the next meeting.

### Old Business

Status of 6M repeater - (Mark, N9-MEA): Currently working on the duplexer. Also will install some filters for TVI. Discussion was held regarding the future of our antenna on the WAOW and WSAW

TV tower.

Jack, N9LIA, reported on the success of the Boy Scouts Camporee where the WVRA set up Amateur Radio equipment and operated. Thanks to N9MEA, N9-NMH, KB9DZG, and KB9FRB. Thanks and a certificate were presented to N9IAB, KB9DED, N9SDI, N9LIA, and KA9DQQ.

If any one is interested in a hamfest here in Wausau in August 1999, please offer to chair the event. We need the chairman by January 1.

### New Business

Dick, KA9DQQ, asked about the lack of the Newsline Report on the Wednesday night net. He offered to pay the Saturday phone call to have it recorded and presented on the net.

We will be collecting items again for the North Central Health Care Facility for delivery at Christmas time. Bring items to the next two club meetings.

Adjournment: KB9RXA and N9LIA.

The program for the evening was our annual club auction. This was one of the best in recent history, considering attendance and the quality of the sale items. Thanks to Jim, N9FOL, for being the auctioneer.

Respectfully submitted:

Kim Kunze,  
N9SDL

## Wisconsin Nets Association Ltd.

Art Evans, KA9KLZ, Secretary

213 N. Jefferson • Cuba City WI 53807-1558

## WISCONSIN NETS

Net	WNA	Freq.	UTC	CST	Manager
BWN	Yes	3985	1300	0700	W9RCW
BEN	Yes	3985	1900	1300	KE9VU
WSBN	Yes	3985	0030	1830	WB9WHQ
WNN	Yes	3723	0100	1700	KB9OCZ
WSSN	Yes	3645	0130	1930	N9BDL
WIN/E	Yes	3662	0200	2000	WB9ICH
WIN/L	Yes	3662	0500	2300	W9UW
RCRA	No	01/61 (Mondays CDT)	0130 (Menomonie Area)	1930	KA9OMC
Gr. Bay	No	72/12 (Green Bay Area)	0345	2145	WB9NRK
ARES	No	4.65/5.25 (South East/South Central Wisconsin)	0300	2100	
RACES	No	3993.5 (LSB Sunday)	1500	0900	WA9OAY

### Wisconsin NTS Traffic Report October 1998

Traffic and check-ins were both up in October. Vastly improved band conditions and earlier hours of darkness may have a factor in the higher counts. During October, with all seven nets reporting, 3023 stations passed 2127 messages. BWN-1818, BEN/46, WSBN/75, WNN/23, WSSN/14, WIN-E/107, and WIN-L/44.

Nine stations had traffic totals in excess of 100, six of whom made Brass Pounders League. The stations are: K9-JPS/905 (BPL), W9IHW/729 (BPL), K9RTB/578 (BPL), W9CBE/562 (BPL), K9GU/430 (BPL, over 100 deliveries), WB9YPY/425, W9RCW/375 (BPL, over 100 deliveries), N9KHD/153, and W9-YCV/106. Twenty eight stations submitted Station Activity Reports, and twelve stations submitted Public Service Honor Roll Reports.

Wisconsin needs another digital (pac-tor/amtor) station to give some relief to Hale Blakely, W9CBE. Hale has been handling several hundred messages per month and needs some help. Anyone who

is interested in becoming a digital rep for Wisconsin, contact either Hale or me.

I mail my reports to League Headquarters on the 7th of the month. That makes the deadline for reports the 6th. I can accept reports until I start printing them up for mailing. If you can catch me on the BWN on the morning of the 7th all would be well.

Hale Blakely, W9CBE, Asst. STM will also accept reports and forward them to me. Hale covers most of the CW and SSB nets so there is someone on almost every net to take reports.

Reports can also be sent VIA packet or e-mail.

My packet address is:  
KA9KLZ @ KC9KQ.WI.USA.NOAM  
My e-mail address is:  
aevans@mhtc.net

Thanks to all stations who participate in the Wisconsin nets. You are the nets and Wisconsin nets are the best. 73.

Submitted by:  
Arthur A. Evans, KA9KLZ  
Wisconsin Section Traffic Manager  
November 7, 1998

## The Racine Megacycle Club

Club Station W9UDU • Racine, WI

Mary Urban, N9ZWE, Secretary

c/o RMC • P.O. Box 3 • Racine, WI 54301-0003

e-mail: w9udu@wi.net

Web: <http://www2.wi.net/~hamradio/>

Voice mail: (414) 552-6RMC • ARRL Affiliated

Providing communications for American Red Cross and ARES

### MEETING MINUTES October 12, 1998

The October 12, 1998 regular membership meeting of the Racine Megacycle Club Inc opened at 7:32 p.m. at the American Red Cross Building. President Rees Roberts, K9UUT, and Secretary Mary Urban, N9ZWE, were present.

Secretary Mary, N9ZWE, read the minutes of the September 14, 1998 regular membership meeting. The following two corrections are being made to the minutes. The sentence "The November meeting is also when the club is to set the 1999 dues" is an incorrect statement. When the by-laws had been amended to reflect this statement, the same amendment had not been made to the Constitution. The Constitution states the membership can set the dues at any time. When there is a conflict between the Constitution and the by-laws, the Constitution prevails. The sentence should state "The membership can set the dues by majority vote at any regular meeting". The sentence "Marini Tool and Die Company donated \$50 for general club use" should be corrected to read "Marini Tool and Die Company donated \$50 for the Annual Amateur Radio Banquet". Ken,

N9WHR, made a motion to approve the minutes as amended, Ray, K9RI, seconded and the members approved by a voice vote.

Treasurer Bonnie, WB9ZKX, read the treasurer's report. Larry, WA9JMO, questioned \$495 for the Amateur Radio Banquet included in the treasurer's report. The club is holding the money in our account and will do the accounting for the Amateur Radio Banquet next year. Ken, N9WHR, made a motion to accept the report as read, (I could not understand who made the second) and the members approved by a voice vote. (Treasurer's report is attached.)

### COMMITTEES

Nominating Committee Chair Ken, N9WHR, announced that the following nominations have been made: The incumbents are running for president, vice president and activities director. Greg, KB9-RMA, is running for treasurer. They can find no one to take the Secretary position.

Education Committee Chair Larry, WA9JMO, stated the presentations given

## Quarter Century Wireless Association Southeastern Wisconsin Chapter 162

Larry McCalvy, WA9JMO  
5400 Six Mile Road  
Radne, WI 53402



I, for one, do not look forward to WINTER! That, even though I do not have to traverse the elements associated with that six letter word on a regular basis; I officially retired from paid manual labor in September and the retirement checks were in the mail. The only nice thoughts I can conjure up place me in front of a roaring fire while outside my picture window, large white flakes of snow slowing meander toward the ground, and I sit, engaged in long QSOs with folks in warm, sunny, wonderfully snow-less places.

Our Christmas party, scheduled for a Sunday in December (I believe it is the

second Sunday), has not been blessed with a destination as of this writing. Postcards with all the details will be winging their way towards your mailbox as December starts its slow track across the calendar.

President Spencer Clope, W9LDH, has appointed our 1999 committees and set the Chapter's goal for the same period. As the details unfold, I shall share them with you.

Wendy and I would like to take this opportunity to wish you and your loved ones a most joyous Christmas and a happy, healthy New Year.

\* \* \* \* \*

73, Larry McCalvy, WA9JMO

## CARD OF THANKS

My sincere thanks to the folks who print this newspaper each month, the Shopper Stopper in Merrimac. They have been doing it for a very long time. Special gratitude to Bart, Char, and Kirk, and to Lois (type shop supervisor) and to the press house crews. And special acknowledgement to patient Marlene in the front office! You are the greatest, and a joy to work with. - Jim



## Racine Megacycle Club

Continued from page 10

at the present class have been very well done.

Hamfest Committee Chair Rob, KF9-ZT, handed out the first draft of the 1999 flyer and the voice mail text for the committee's approval. The flyer will be accessible on the RMC web site. The request has been approved by the ARRL, so the club can hold an ARRL sanctioned hamfest.

Sunshine Committee Chair Kathy, N9ZWN, requested suggestions and that everyone notify the committee of members they can serve. Contact her, Cheryl, or Arne.

Cheryl, WS9P, reported her team won the last Fox Hunt.

### NEW BUSINESS

President Rees, K9UUT, handed out a proposal which included the past, 1999 proposed and an extended budget. Discussion was held on this issue. Further discussion of the dues and budget will be held at

the November meeting.

President Rees, K9UUT, requested that all in attendance give a pro and a con opinion regarding the merger of the Racine Megacycle Club and the Lakeshore Repeater Association. Fifteen minutes was first given for pro opinions, then fifteen minutes was given for con opinions. He then requested volunteers for a committee to study both sides of this issue. Greg, KB9RMA, Cheryl, WS9P, Gene, WB9-ZKY, Brian, KB9QNL, Spence, W9LDH, and Rob, KF9ZT, volunteered.

President Rees asked if anyone was interested in having a Christmas Pizza Party in December. Ken, N9WHR, made a motion that the club organize a Christmas Pizza Party at the cost of \$5.00 per attendee. No second was made on this motion. A decision could not be made on a voice vote so a hand vote was taken. The motion passed with fourteen members voting in favor of the motion, three against and one abstained.

Ray, K9RI, asked if any consideration was given to his offer of where the 1999 Field Day could be held.

Ken, N9WHR, made a motion to close the meeting at 9:31 p.m., Ray, K9RI, seconded and the members approved by voice vote. □



## SHEBOYGAN County Amateur Radio Club

Steve Eisold, AA9SJ, Secretary  
2220 N. 20th Street • Sheboygan WI 53083

**2-Meter Repeater: 147.06 Output**

The November meeting of the Sheboygan County Amateur Radio Club was called to order by Vice-president Larry, WB9FXQ, at 7 p.m. local time.

The SCARC meets every second Tuesday of the month, 7 p.m., at the Red Cross building, 2032 Erie Ave., Sheboygan.

This month we tried something new and held the monthly club meeting on the 147.06 repeater. There were 8 members who checked in for the meeting.

Steve, N9TRK, gave a brief treasurer's report. There were no expenses this past month, and the balance is \$1522.74.

Repairs from the flood in August are completed, and the December meeting will again be held at the Red Cross building. John Weeden, director of the Red Cross, will be at the December meeting to inform us of what will be happening to our meeting area during and after the remodeling. We still need suggestions as to what type station, if any, we want to keep there. Ham of the Year nomination forms will be available.

It is time to vote for the ham you feel has contributed the most to the club, the area, and ham radio in general. The award will be presented at the February Valentine's dinner.

We need some people to help form a committee for the Valentine's dinner. Last year the meal was at the Family Restaurant. There was a comment made that sharing a room with another dinner group was a little noisy. Any new ideas are welcome.

A reminder that the Activity Award for the month has begun. Log as many QSOs as possible any band, any mode.

Bring your log to the December meeting. The operator with the most contacts will receive a certificate. Repeater QSOs do not count.

The club's antenna and tower at the Red Cross building need to come down. The tower is becoming unsafe to climb, and the HF antenna needs to be fixed if we plan to keep a station on site. The board also decided to make a contribution to the Red Cross building fund from the club's general fund.

With the increase in activity on the VHF bands and many new people using the repeater, Wally, W9SDH, is looking for information on the 147.06 repeater: equipment, location, antenna height. If you have any information, contact Wally.

Meeting adjourned at 7:30 p.m.

Just a reminder, if you use e-mail consider signing up to the Sheboygan Hams mailing list. Just submit your e-mail address to: julian@bongo.tele.com. E-mail sent to shebham@tele.com will be forwarded to all listed subscribers. Thanks again to N6ARE for providing the mail server for SCARC and ARES use.

For those of you who are not on the web and have correspondence for the club, our address is: PO Box 1282, Sheboygan WI. 53082-1282.

### Net Schedules

8p.m. Monday nights, SCARC Fun Net, 147.06 PL 107.2, +.

Traders Net - Following the Monday night net on the first Monday of each month.

Respectfully submitted: Steve Eisold, AA9SJ



## Washington County Amateur Radio Club

Tom Waldschmidt, N9LZW,  
Secretary  
465 Elder Lane  
Allenton, WI 53002-9799



**Club Repeater: 146.73 MHz**

<http://www.nconnect.net/~WCARC>

### MEETING MINUTES November 12, 1998

President Paul (Rip) Ripple, W9SIZ, called the November 12, 1998 meeting of the Washington County ARC to order at 7:32 p.m. There were 11 members attending with one additional member arriving after the meeting but before the program. They were Tom, N9LZW; Paul, W9SIZ; Keith, KY9P; Paul, N9KIK; Bob, AA9EF; Sherm, W9NGT; Walt, N9LLS; Gary, W9XT; Jim, KB9LTW; Brian, KB9NLF; Ed, AA9WW; and Bill, N9IBU.

Secretary Tom, N9LZW, read the minutes of the October meeting. There was a motion by Sherm, W9NGT, seconded by Brian, KB9NLF to approve the minutes. Motion carried.

The Financial Report was read by Rip, W9SIZ. There was no change from the previous month. There was a motion by Sherm, W9NGT, seconded by Bob, AA9EF, to accept the Financial Report. Motion carried.

Rip announced that the Annual meeting would be held in January. In preparation for the elections that will take place at that meeting, a nominating committee of five members has been appointed. The committee consists of Bob, KG9CW; Bill, N9IBU; Paul, N9KIK; and Jim KB9LTW. Ed, AA9WW, has been appointed as an alternate. Please contact any committee member if you are interested in holding any office. Rip announced that he is retiring from the presidency.

Rip, W9SIZ, read the proposed amendment to the club's constitution. The amendment would reduce the number necessary to approve amendments to the constitution and by-laws from 3/4 of the membership to 2/3 of the membership.

Rip, W9SIZ, distributed copies of Heidel's menu for a proposed Annual Banquet. The cost per person has increased slightly from last year. This year's cost will be \$14.25 per person but that includes tax and gratuity. The club will need to place a \$100.00 deposit if these arrangements are agreed upon.

Rip said that Heidel's had 3 Saturday dates available in January 1999. They were the 9th, 16th, and 23rd. After some

discussion members decided unanimously to set the date for January 16th, 1999. This places the Annual Banquet on the Saturday following the Annual meeting as we have done in the past. Cocktail hour will be from 6 p.m. to 7 p.m. with the family-style dinner at 7 p.m.

### New Business

Rip, W9SIZ, announced that he has a 14" VGA monitor for sale. He is asking \$60.00 for it.

Jim, KB9LTW, discussed a problem that exists when trying to crossband using the club's repeater. Jim requested that a change be made to remove the PL tone from the repeater's 'hang-time'. Jim drew a diagram on the board representing the received and transmitted signal of the repeater. His diagram showed how the repeater would stop transmitting PL upon loss of the received signal. This would enable a crossbanding transceiver to switch more quickly avoiding the 'hang-time' delay. Sherm, W9NGT, explained that the repeater has jumper settings which would allow us to do that. This proposal would not remove PL from the transmitted signal, but rather, just from the "hang-time". There was a suggestion to refer this to the repeater committee. Tom, N9LZW, said that he would send a message to Don, K9GR, so he could research this.

David, KA9RNU, had arrived at the meeting and continued discussion regarding the Annual Banquet. Members present seemed unanimous in the selection of Heidel's as the location. David said that he would need your preferences on the menu by the end of November. Please choose two meats from the following: Chicken, Turkey, Barbecued Ribs, Ham, Roast Beef, Swiss Steak, Pepper Steak, Tenderloin Tips, Pork Chops, or meatballs. Please choose one potato from the following: Mashed, Baked, Parsleyed, Hollandaise, Cheese, Scalloped, or Potato Salad. Please choose one vegetable from the following: Bean Casserole, Candied Carrots, Buttered Corn, Peas, Beans, or Carrots. Please choose one salad from the

Please turn to page 12

## Mancorad Radio Club

Mary Langer, KB9GOY,  
Secretary

P.O. Box 204 • Manitowoc, WI  
54221-0204



**2-Meter Repeater: 146.01 Input/146.61 Output**

### MANCORAD MINUTES November, 11, 1998

The monthly meeting of ManCoRad was called to order by President Roger, W9NPX, at 7:40 p.m..

The minutes will be approved at the next meeting as we did not receive our "Badger State Smoke Signals" before the meeting.

The treasurer's report was given by Glenn, AA9MT, and Barney, N9XER, made a motion to approve and was seconded by Ron, WS9X.

### OLD BUSINESS

The emergency evacuation with the nuclear plant went very well as reported by Fred, W6BSF. He had support from Roger, W9NPX, Denise, N4WGK, Red, N9GHE, and Glenn, AA9MT. They also had contact with Madison EOC on 2 meters. Fred is the new RACES director taking over from Clancy, K9WIX. Congratulations, Fred.

The annual club Christmas party is December 11 at Cedar Ridge. The cost is \$9.00 per person. The club voted to have chicken and ribs family style. Cocktails start at 6:00 and dinner will be served at 7:00. You are to bring a \$5.00 gift to

exchange. Contact Roger, W9NPX, if you are interested in coming. The price includes tax and tip.

Fred, W6BSF, brought up to the club that the packet set up at the EOC does not have a 2 meter rig. A motion was made and approved to purchase a 2 meter rig from Glenn, AA9MT, to be kept at the EOC. Also there is a 440 rig and duplexer sitting in the club room. A show of hands showed agreement to take to the EOC.

A question was brought up about getting equipment or manuals or whatever from the club room. If anybody needs to get into the club room Red, N9GHE, or Fred, W6BSF, has a key to get in. Make arrangements with them to let you in.

### NEW BUSINESS

It is the time of year for the books to be audited. Everyone agreed we would take them to Chuck, W9BZU, and let him do them.

In the coming months Fred, W6BSF, is going to organize a clean-up, inventory day for the club room. If we have to move in a hurry we would be more organized. Ron, WS9X, volunteered to list some of the old magazines, QST's, CQ's and 73's,

Please turn to page 12

## Mancorad Radio Club

Continued from page 11

on the internet to sell.

Roger, W9NPX, would like to make high school students more aware of ham radio. He would like to go to the schools and give demos and get more people interested in the hobby. Good idea Roger.

A lady from Madison has contacted the club regarding a 50 foot tower and a motorized 60 foot crank up she has that anyone interested can have free for the taking. You must take down. Contact Fred, W6BSF if you are interested.

Ron, WS9X, brought to the meeting materials and instructions for a build your own T-hunt antenna. Thanks, Ron for the free materials. Next month Ron volunteered to bring his collection of novelty AM radios. Should be very interesting.

**NEXT MONTH'S MEETING** will be on **TUESDAY, DECEMBER 8** instead of Wed. There was a conflict at the bank and we had to change the date.

Elections were held and the new officers for the coming year are as follows:

President: Fred Neuenfeldt, W6BSF

Vice President: Dick Swanson, N9QFY

Treasurer: Roger Beyer, W9NPX

Secretary: Mary Langer, KB9GOY

Board of Directors: Paul Welnicke, AA9-WI; Red Pajula, N9GHE; Gene Buesing, WB9DQD; Roger Beyer, W9NPX. (Roger is outgoing President so he automati-

cally becomes a board member.)

Congratulations to all the new officers and a thank you to the out-going ones for a job well done.

Erv, W9OMO, gave a little information to the club what ham radio was like in 1940 when he got his license. Most of the radios were home built in those days. You did not go out and buy a rig. When the war came everyone had to dismantle all ham equipment and put it away. Thanks for the info Erv, you always have something interesting to share with the club.

The meeting adjourned at 8:20 with a motion by Barney, N9XER and seconded by Gene, KB9KXF.

*Submitted for approval:*  
*Mary Langer, KB9GOY*  
*Secretary*

### MEETING ATTENDANCE

AA9MT	Glenn
K9HAG	Ken
KB9GOY	Mary
KB9KXF	Gene
W9NPX	Roger
N9XER	Barney
W9OMO	Erv
N9GHE	Red
W9GXD	Charles
AA9WI	Paul
N9XEZ	Bill
N9FVZ	Dan
KB9GRC	Tom
WB9DQD	Gene
N4WGK	Denise
N9XER	Barney
N9GHE	Red
AA9WI	Paul
N9FVZ	Dan
WB9DQD	Gene

OFFICIAL PUBLICATION OF CENTRAL WISCONSIN RADIO AMATEURS, LTD.

At University of Wisconsin, Stevens Point

## WATTS SNOO

AMATEUR RADIO  
CWRA

WB9QFW 2-Meter Repeater 146.07-.67 and Club Station

249 Georgia Street North • Stevens Point WI 54481-1040

### Meeting Minutes October 14, 1998

President Al Mallek, K9WVM, called the meeting to order at 7:30 p.m. A motion was made and passed to accept the minutes from last month's meeting as printed in the Badger State Smoke Signals. Also, a motion was made and passed to approve the treasurer's report as read by Treasurer Joe Omernik, N9CGV.

Mary Eiden, KG9OK, reported she got e-mail from Mike Pagel, K9UW, about the auto dial listing and repeater command codes from the auto patch. Mary said that everyone at the meeting should see her afterwards so they can get their auto dial number. Mike said that he would like everyone to test out their number and let him know if it works. Mary said that she only printed out one copy since there are still changes being made. Al Mallek, K9WVM, said that the list Mike sent to Mary had names of people on it that he has not seen or talked to in some time. Mike's list had considerably more people listed on it than the current CWRA Paid Membership Roster that Mary has. Mary will ask Mike about the list and about getting it revised to reflect our current membership listing.

Kathy Mallon, KG9NX, reminded everyone to please remember to identify when they are using the repeaters.

Mary also said that Mike wanted to remind everyone that we will be moving the station and that we can hopefully have some people over there to put things in boxes so we will be ready when the time comes for us to move. Bruce Walthers, W9QAH, offered to take a look at the stuff in the club station. He may be interested in it. Mike's e-mail also said that he and Jim Tuszka went up on the roof and discovered that the loop antenna was broken and needs to be fixed.

Al reported that reservations had not yet been made for our January banquet. It will most likely be at the Sky Club again and he will talk with Wayne Johnson, K9MIF, about getting the reservations made. It most likely will be like last year where people can order whatever they would like off the menu. Mary stated that there is normally a buffet there that night as well.

The University Center has been reserved for the 1999 Swapfest. The UWSP food service vendor is now signed on for the Swapfest. Someone asked why we were going back to the University Center to have our Swapfest. Al explained that after looking at last year's Swapfest, we would be better off paying the fee to rent the UW Center and have everything available there and only have a one-day setup and take down. Mary will send a note to BSSS telling them to change our ad to reflect the new site, and she will list her e-mail and regular mail address for people to contact for more information. If people have questions or need information, they can send them to her, since a joint effort and not one person are running the Swapfest. Bruce Walthers, W9QAH, agreed to be auctioneer for the auction at the Swapfest.

The possibility of doing a club newsletter was discussed. Kathy Mallon, KG9NX, is willing to try doing a first issue to see what we can put together. Mary, KG9OK, said that she would be willing to work with Kathy to help get her started. These newsletters would be e-mailed to those who have e-mail capability. For those who do not have computers, it will be printed and sent in the regular mail. Printed copies of the newsletter will only be

sent to those without e-mail access. This will help cut down on the cost of extra postage. The newsletters will contain information about what's going on with the club, and pictures will also be in it.

Kathy reported that the ARRL Affiliation Papers have been signed. She will be sending them out so that we can become affiliated with the ARRL.

Kathy then reported that our first workshop is to be held on Tuesday, November 17 at 7 p.m. at the American Legion Club in Stevens Point. The topic will be "Net Participation." It will include what the purpose of a net is, what is a net control, rules and etiquette of a net, and how to check in. This will include local, statewide, and national nets. This is a good opportunity for those of us who have little net experience to find out what is involved in net operations.

Jerry Fadness, W9GF, reported on a public awareness statement from the National Weather Service that November 9 through the 13th is Winter Awareness Week. If we decide to have a net, it is suppose to be on Thursday, November 12 from 1:15 p.m. to 2 p.m. This would be the same thing as we do in April for Tornado Awareness Week. Jerry reported that the Sheriff's Department in each county are asking amateurs in each county to participate because of all the trouble they have with bad roads (drifting and things that they do not know what's going on). People can report in right from their home. Jerry has agreed to temporarily be our EC until we find someone else to take the job.

The repeater codes were also discussed again. The codes for shutting on and off the weather alert need to be forwarded as was voted on in August. A motion was made to use .67 for the weather net since we already have the codes for that repeater. After discussion, the motion was withdrawn on the condition that the codes for the weather alerts are obtained. Kathy stated that it would be nice to keep it on .985 only because other counties have been contacting us on that frequency in the past. Kathy, KG9NX, will be net control for the Thursday simulated net.

Mary, KG9OK, reported that the club web site has a new address. Mary changed Internet providers. The new address is <http://www.g2a.net/~maiden/cwra.htm>.20

Kris Scheppe, KB9LYT, is looking to start up an informal net. He also asked if the club owned any ARRL video on introduction to Amateur Radio. He would like to have a program on campus to get students involved in Amateur Radio.

The program for tonight's meeting was how to turn a car battery into a power supply.

The meeting adjourned at 8:32 p.m.

*Respectfully submitted,*  
*Mary Eiden, KG9OK*  
*CWRA Secretary*

### Attendance

Mary Eiden	KG9OK
Al Mallek	K9WVM
Kris Scheppe	KB9LYT
Bruce Walthers	W9QAH
Jerry Fadness	W9GF
Al Mallek	N9WBS
Dave Tamres	KB9IIF
Mike Eiden	N9MI
Jan Rydberg	KB9RUJ
Joe Omernik	N9CGV
Kathy Mallon	KG9NX

## Washington County Amateur Radio Club

Continued from page 11

following: Coleslaw, Jell-O, or Lettuce Salad. You may contact David by phone at 414-334-6194 or email at [parknson@execpc.com](mailto:parknson@execpc.com) (note: there is no 'i' in parknson).

Walt discussed the Hartford Christmas Parade that was held on Sunday, December 8th, 1998 at 3:00 p.m. He said that overall everything went well. Five club members volunteered to help. They were Larry, WB9BVB; Rip, W9SIZ; Jim KB9-LTW; Walt, N9LLS; and Bill, N9IBU. Walt has already received a thank-you letter from the parade organizers expressing their appreciation for our help.

Sherm, W9NGT, announced that he had items in his trunk which members were welcome to have. He said the items included an attenuator, 500-watt dummy load, 6 or 7 channel coax switch, non-inductive resistors and other items.

Rip, W9SIZ, asked if there was a motion to adjourn. A motion to adjourn was made by Sherm, W9NGT, and seconded by Paul, N9KIK. Motion carried. Meeting adjourned at 8:15 p.m.

The program for the December 10th meeting will be by NConnect.

*Respectfully submitted:*  
*Tom, N9LZW, Secretary*  
*Washington County ARC*

### Program

Following the meeting, Keith Shilhavy, KY9P, discussed his new TenTec Omni VI Plus transceiver. Keith stated that he is very pleased with the Ten Tec products because they are easy to use and service. The Omni VI is a 100-watt Digital transceiver with 100 memories and programmable functions. It lists for \$2385 when new. Keith explained that the company has a web page which offers used equipment and factory demos at reduced costs. Keith said that one of the best things about Ten Tec is their excellent customer service. There is no doubt that Keith would make a good

sales representative for Ten Tec.

### Calendar

Thu, 12/03/98, 7:30 p.m.  
Net, 146.730 repeater

Sat, 12/05/98, 9:00 a.m.  
Breakfast, Alma's Cafe on Addison Rd.

Thu, 12/10/98, 7:30 p.m.  
WCARC meeting, Rm. 1020, Washington County Courthouse

Sat, 12/12/98, 9:00 a.m.  
Breakfast, Mineshaft in Hartford

Thu, 12/17/98, 7:30 p.m.  
Net, 146.730 repeater

Sat, 12/19/98, 9:00 a.m.  
Breakfast, Jimmy's in Jackson

Thu, 12/24/98, 7:30 p.m.  
Net, 146.730 repeater

Fri, 12/25/98, 1:00 a.m.  
Fat guy in red suit delivers new ham gear.

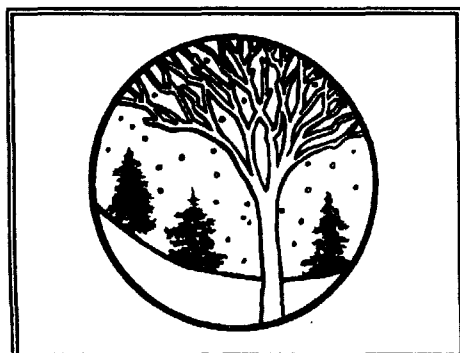
Sat, 12/26/98, 9:00 a.m.  
Breakfast, Alma's Cafe on Addison Rd.

Thu, 12/31/98, 7:30 p.m.  
Net, 146.730 repeater

### HAPPY NEW YEAR!

Thu, 01/14/99, 7:30 p.m.  
Annual meeting and election of officers

Sat, 01/16/98, 6:00 p.m.  
Annual Banquet, Heidel's





Red Cedar Repeater Association, Inc.

Steve Hart, KA9OMC, Secretary

E616 810th Avenue

Knapp, WI 54749

2-Meter Repeater: 146.01 Input/146.61 Output

Greetings, RCRA sponsors and guests.

KB9LUK, James at Eau Galle, has a PCS 2000 2-meter radio without mike, a Heathkit multimeter, and a 386 computer with color monitor and another monitor for sale. Call James at (715) 283-4373. James reports problems trying to get a low SWR on the "Big Stick" six meter antenna, and has settled for a different vertical.

N9PPE, Jeff at Bloomer, is recovering from a broken foot, and it will be a few weeks before he can resume flying at Boyceville.

W9AVM, Jim at Elk Lake, has been following the traffic for Hurricane Mitch on 14.265. Jim also assisted the net control in California with some maps of the area.

KB9SGY, David at Eau Claire, has finally gotten a receiver that covers the high frequency amateur spectrum and some short wave.

The Courage Center will host a ham-fest on December 5 in Golden Valley, Minnesota. Contact Nancy at (612) 520-0512 for more details.

KB9NGD, Peter Johnson at Menomonie, has moved to San Antonio, Texas. Peter constructed a banner for RCRA that is used at some of our activities.

NX9F, Jim Ley with the Menomonie VEC, reports two new amateurs as a result of the exams on November 7. New amateurs are a student at UW-Stout and YL of AA9UK, Kathy at Chippewa Falls.

K9KGB, Bill Duncan at Cedar Falls, has donated a Regency 2-meter radio with power supply to RCRA. This was the equipment used at the local radio station as part of WMEQ's color weather radar and our Dunn County SkyWarn. Much of the station's functions are controlled from Eau Claire studios, ending another phase and chapter in our local emergency activity.

N0PDD, Bob Stark at Winona, Minne-

sota, has been giving our Monday Nite Net some tips on preparing for power outage. Bob suggests getting some gel cells and converting a table lamp to DC using a low-wattage bulb may keep us from the dark this winter.

KB9TAC, Andy Wagner at Cedar Falls, now is mobile with his early-80s Skylark. Andy has finished the football marching band season and is now involved with pep band. Future interests may include a study in telecom at Stout. Immediate interest is bagging that deer in nearby woods on the Red Cedar River.

A Novice-Technician 5 WPM code class will be offered by the Eau Claire Amateur Radio Club starting January 9. Contact KG9MV, Jim, at (715) 838-9108 for more details.

Code practice continues on the repeater on Thursday evenings at 7:30 p.m. We will be starting the lesson over again in just a couple weeks.

The next social hour is scheduled for January 26 at 1414 9th Street in the L-Mart shopping center. Meeting time is 7:30 p.m. at the Peppermill Restaurant in Menomonie. Bring a friend.

It is time again to renew subscriptions to Badger Smoke Signals through RCRA and to pledge support for the upcoming repeater year. Repeater support is \$15/individual or \$20 for multiple amateurs in one household. If you would like a subscription to BSSS through RCRA, include an additional \$10. With all the holiday things ahead, we ask that you not delay and send your pledge and subscription, new or renewal, to the RCRA secretary today.

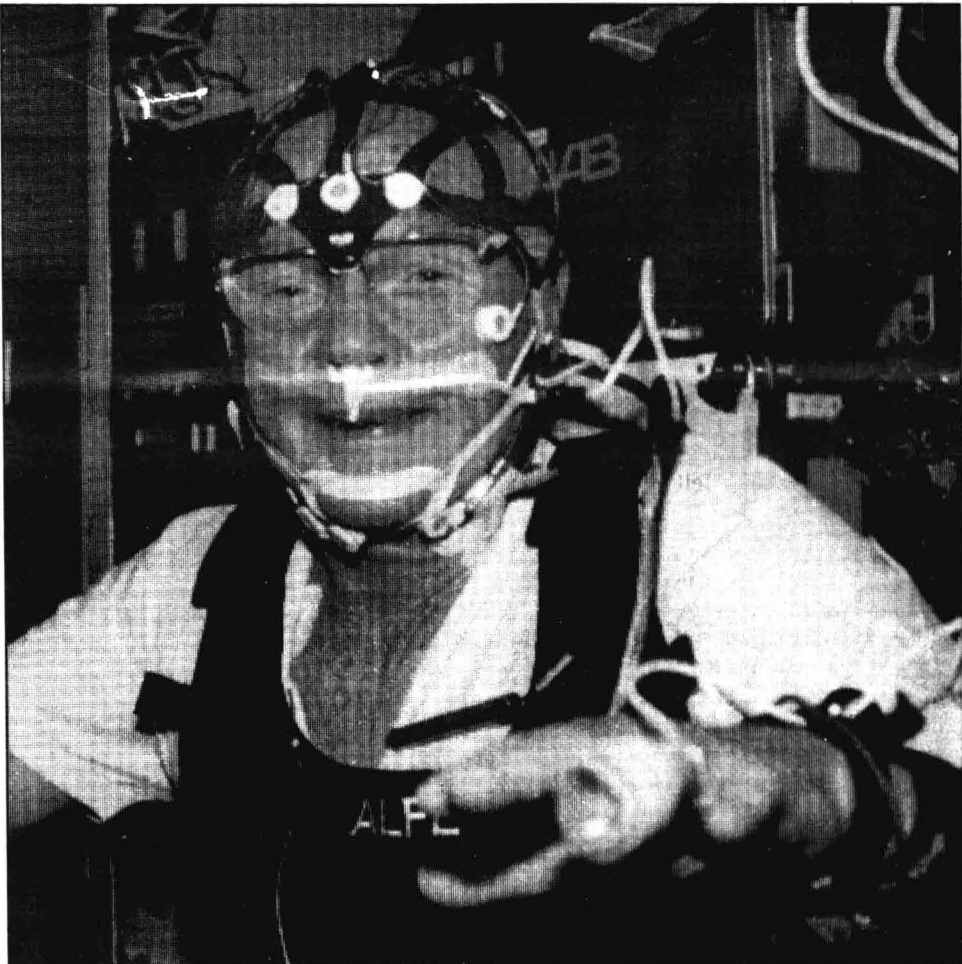
Have a Happy Thanksgiving, a very Merry Christmas and a fine 1999!

Steve Hart, KA9OMC  
RCRA Secretary/Treasurer.

Santa visits the Christmas meeting



Wired for Tired



U.S. Senator/Astronaut John Glenn is shown here in orbit on Discovery, prepared for a sleep study with all sorts of data-gathering electrodes. Scientists expect to learn much about certain geriatric problems from the senator's flight. He was also a Payload Specialist and certainly earned his keep. NASA Photo

To the Badger Weather Net

By Lew Sheerar, K9JPS

Some time has passed  
since you all wished me well,  
But time was the factor  
to prove I healed well.

My left hip feels fine,  
tho of metal now made  
And functions as well as the right -  
without aid.

'Twas heartening to know,  
back in October past,  
That comrades were hopeful  
that surgery would last.

It's to be back on the air  
once more  
To conduct the net's business  
while some people snore.

HERE AND There

Continued from page 5

repair service for the L-4, L-4B and L-7 linear amplifiers.

Drake says its supply of unique parts is limited, but it still might be able to supply individual owners with needed parts for do-it-yourself repairs. Frost encouraged Drake owners to call or write if they have any questions about repair or service of a particular piece of equipment -- even if it's already on the list.

Call Frost at 513-746-4556 or e-mail him at Bill\_Frost@rldrake.com. Frost's mailing address is Bill Frost, R.L. Drake Co, Service Dept, 230 Industrial Dr, Franklin, OH 45005.

The ARRL Letter

Wind blows; Dutch VLF experiment works

Richard Middel in the Netherlands, in a just-received note, that "an unexpected decision to do the (VLF) experiment over again last Saturday (November 21) gave us an overwhelming result."

"Everything went fine, there was enough wind. But the temperature was -4 to 5 degrees (C); later that day it began to warm up a little.

"An exact report of that day will follow as soon as I get our log of that day."

Thanks to Richard for the report. The ARRL has a petition pending before the FCC for VLF privileges for U.S. hams. The Commission has taken no action on that petition (and several others, including expansion of the special event station call pool) - yet.

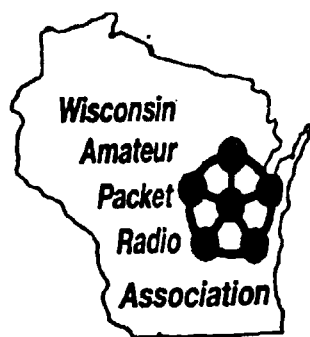
FCC SEQUENTIAL CALLSIGN UPDATE

The following is a list of FCC sequentially assigned call signs issued as of November 4, 1998. For more information about the sequential call sign system, see Fact Sheet PR5000 #206S or contact the FCC, 1270 Fairfield Rd, Gettysburg, PA 17325-7245; e-mail fccitd@fcc.gov.

District	Group A Extra	Group B Advanced	Group C Tech/Gen	Group D Novice
0	AB0IC	KI0OM	++	KC0EJH
1	AA1UE	KE1KM	++	KB1DJC
2	AB2FV	KG2PI	++	KC2EGH
3	AA3RV	KF3CE	++	KB3DDM
4	AF4MH	KU4VX	++	KG4AQE
5	AC5RR	KM5TH	++	KD5FMT
6	AD6HE	KQ6YL	++	KF6TLR
7	AB7ZN	KK7QN	++	KD7DDG
8	AB8DK	KI8GX	++	KC8LDZ
9	AA9WQ	KG9OS	++	KB9TPD
N. Mariana Is	NH0G	AH0BA	KH0HJ	WH0ABJ
Guam	++	AH2DI	KH2TX	WH2ANX
Hawaii	NH7R	AH6PO	KH7JZ	WH6DFA
American Samoa	AH8R	AH8AH	KH8DM	WH8ABF
Alaska	AL0N	AL7RH	KL0QL	WL7CUY
Virgin Islands	++	KP2CP	NP2KF	WP2AIJ
Puerto Rico	NP3Y	KP3BL	NP3ZS	WP4NOB

++ All call signs in this group have been issued in this district.

The ARRL Letter



# THE WISCONSIN PACKETEER

Wisconsin Amateur Packet Radio Association

Allen Schnepf, N0GMJ

5000 Hwy 86, Ogema, WI 54459

Andy Nemec, KB9ALN, Editor • 720 N. Broadway (Upper West) • Green Bay, WI 54303

## A Message from WAPR Chairman Joel Papke

I would like to thank Bob Gedemer KA9JAC, for his long years of service to WAPR, both for his job as treasurer from which he recently retired, and for all the efforts he put into running a BBS and and construction of nodes that remain as integral parts of the forwarding system. Traffic into and from the Fox Valley now moves smoothly with lots of credit due to Bob. He and a few others have been the ones who got IP routing of traffic started while the rest of the state is still trying to make it work smoothly. Thanks Bob, for all your efforts.

I'd like to also thank Al Schnepf, N0GMJ for volunteering to take the job as Treasurer. WAPR Dues and membership correspondence should be sent to:

Allen Schnepf, N0GMJ.  
5000 Hwy 86,  
Ogema, WI 54459

Happy Holidays,  
Joel Papke N9BQM  
Chairman, WAPR

## WAPR News - December, 1998

Happy Holidays! On behalf of all the people involved in WAPR, I'd like to wish you the best for the holiday season. I hope the coming New Year is kind to you and that it brings you good fortune, good health, and lots of fun with Amateur Radio.

As most of you know, WAPR had one of it's quarterly meetings last month. You'll find the meeting minutes elsewhere on this page. One change you will see in the meeting minutes is that of the WAPR treasurer. Bob Gedemer KA9JAC has been doing this job for the past few years and has found himself so busy with other activities that he asked to be replaced. I'd like to thank him for his service. I'd also like to thank Al Schnepf, N0GMJ for taking the reins of treasurer. You will also see a short note on this page from our Chairperson, Joel Papke N9BQM concerning this.

You'll also find a reprint of a report that was presented to the WAPR board of directors concerning the feasibility of implementing the Flexnet networking system in Wisconsin. The report provides detailed information concerning it's operation and also provides more solid information than I presented in my short Flexnet report of a few months ago on this page.

The report comes to the conclusion that Flexnet works and works well, but notes that it would be costly to implement. It also does not address such issues as Forward Error Correction, a longtime problem with the AX.25 protocol. The AX.25 protocol is not used much outside of Amateur radio, and for that reason it does not provide an easy interface to networking protocols used in the rest of the computer industry.

Although I have yet to get feedback from the rest of the WAPR board, the opinions I have heard thus far indicate that this system will probably not be implemented. We will wait for something that is less costly to implement, and perhaps more universally accepted by the rest of the computer industry.

The minutes also reflect that operators in the western part of the state are still working on expanding the network. Most of the discussion is centering around planning and completing the link from the Fox Valley to the west - specifically to Wittenburg and Rudolph. The latest project in the central part of the state is being undertaken by Aaron Heise, K9QWC and his friends out in Waupaca. They want to put a backbone node in the Waupaca area, along with a LAN node. Not only would this provide network access to people who have been without it for quite some time, but also would help in the linkage to Wittenburg and Rudolph. Right now the folks in Waupaca are collecting the pieces necessary to put the stack on the air.

That is it for this news report. Again, I hope you have a safe and happy holiday season, and the best of luck in the new year.

Until next time, 73 from Andy.

Flexnet Study and Report - November 7, 1998

For the Wisconsin Amateur Packet Radio Association

The following report is a summary of Flexnet operating principles and system construction. It is presented to WAPR as part of an ongoing investigation into improved networking methods. While there are some specific conclusions and recommendations, these are not intended to express WAPR policy, and are only presented to the board of directors as a guide.

### 1.1 - What is Flexnet?

Flexnet is a networking system conceived in Germany that uses a variation of the Amateur AX.25 protocol in a more effective way. Flexnet is a computer program that handles network-level transport of AX.25 frames, TCP/IP frames encapsulated in AX.25 frames, as well as other frames that are encapsulated in AX.25

frames.

Flexnet was intended to replace the Net/Rom (Also known as "TheNet") networking system, and to cure the performance problems associated with Net/Rom. The most notable performance problems like "hung" connections, slow data transfer, and loss of connection are, according to it's proponents, cured with Flexnet.

#### 1.1.1 - How does it work?

If Flexnet uses the same protocol we use now, how can it claim to cure performance problems? Most of the problems associated with Net/Rom are really derivative of problems with the AX.25 protocol itself. So, rather than changing the protocol significantly, Flexnet uses the protocol differently.

In order to understand how Flexnet improves data throughput, one first has to understand Net/Rom and know the problems one encounters with Net/Rom.

#### 1.1.1.1 - How Net/Rom makes a connection.

Net/Rom nodes have a unique system for initiating and maintaining a connection. In order for Net/Rom to function, an AX.25 connection to a node must first be made - both from the end user and between nodes. Let's start with a user, say W9ABC, connecting to a Net/Rom node. Once he is connected, he will tell the node what destination node he intends to connect to. It is not absolutely necessary for the user to get to that node, Net/Rom is supposed to autoroute to the destination node.

Let's say that W9ABC has connected to a node known as WIDIG:WX9BIC-4. He wishes to connect to a node called WISHOW:WG9HIJ-5. The WIDIG node knows that it has to connect up to two other nodes to get to WISHOW. Let's also say that these nodes have call-signs of WH9PQR-6 and WP9ART-7. Here is what happens when our end user wishes to make this connection.

First, WIDIG:WX9BIC-4 sends an SABM frame to WH9PQR-6. Once it gets acknowledged, WIDIG tells this node that it wishes to connect W9ABC to the node WISHOW:WG9HIJ-5. WH9PQR-6 knows that it needs to connect to WP9ART-7 to get there. So, it sends an SABM frame to WP9ART-7.

When it is acknowledged, it tells this node that W9ABC is at node WIDIG:WX9BIC-4, and wishes to be connected to the node WISHOW:WG9HIJ-5. Then WP9ART-7 makes the final leg of the connection to WISHOW:WG9HIJ-5. Again, an SABM frame is sent, along with the Net/Rom connect request. Now W9ABC has made his connection to WISHOW:WG9HIJ-5. Here is the tricky part, though.

All of the acknowledgements have to be made twice - once between individual nodes, and one long one that runs the entire length of the Net/Rom circuit, from WIDIG to WISHOW. If this acknowledgement is lost for whatever reason, it has to be resent from start to finish. The acknowledgement between nodes at the AX.25 level does not count at the Net/Rom level. This is one reason

why Net/Rom connections seem to be slow on long circuits and very unreliable. The Net/Rom acknowledgement gets lost and has to be resent through the entire length of the Net/Rom circuit, from end-to-end.

#### 1.1.1.2 - How Flexnet makes a connection.

The user has to have no more information when making a Flexnet connection than he or she needs with a Net/Rom connection. The only difference is that there are no node aliases used, only call-signs. The command syntax is similar to what one uses for a digipeater. The initial connection to the first node is the same, except that WIDIG will only be known as WX9BIC-4. The end node has to be specified, as well as the destination station. So, if W9ABC wants to connect to WP9DEL, the command line syntax would look like this:

C WF9DEL WG9HIJ-5

The node refers to it's routing table and determines the best way to get there, and makes the connection.

There is more, however, going on behind the scenes. For one, each frame is acknowledged from node-to-node, rather than through the entire circuit. In fact, there is no "virtual circuit" like you would find in Net/Rom. Flexnet maintains a connection from hop-to-hop, rather than from end to end. This means that packet frames are almost guaranteed to make it from source to destination with no dropped packets.

#### 1.1.1.3 - Other Important Operational Differences and Features

The hop-to-hop nature of acknowledgement is only one important difference between these networking methods. Others are just as distinctive, and offer other performance benefits.

The first and most obvious difference is that Flexnet uses compression to speed things up, and lower network overhead. With all of the hop-to-hop acknowledgements on the network, this is definitely a plus. It may not be much speedier than a good Net/Rom circuit, but this certainly does make it more practical.

Another significant change from Net/Rom is the dynamic parameter setting. Parameters like Maxframe, Retries, Persistence, and Slot time are all set automatically and adapt to current network conditions. As a result, the network behaves more like a network rather than a disjointed collection of digipeaters.

One feature that can be configured into Flexnet node operation is the "DAMA" system. This system utilizes a "Master" and "Slave" stations. The Master station controls which station transmits at a particular time. It does this by a special polling sequence, assuring that each station gets it's turn to transmit, instead of relying on random channel access. While not widely implemented in the US, it has seen widespread application in Germany as a way to

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deal with the "Hidden Transmitter Syndrome". Each station equipped with DAMA will only transmit when told to, considerably lessening the chances of two stations transmitting at the same time, which causes packet collisions.

There are also a number of features that some of us may be familiar with. One is a "converse" mode, which functions the same way that the "Talk" mode does on TheNet X-1J series of Net/Rom nodes. This conference mode allows multiple stations to converse, each seeing the other's transmitted packets.

One unique feature is the "Find" function. A user connected to the node can ask it to find a particular station, and if it is found, it will report where this station can be found.

There is also the customary Mheard, and connection to a local BBS is offered. Remote sysoping is built into Flexnet, allowing the operator to customize routing tables and other operation without a visit to the node site.

## 2.0 - Hardware Setup

One distinct disadvantage of the Flexnet system has to be what is required for hardware. While we will be able to use our existing TNC's with this equipment, they will run in the "KISS" mode. Plugging in an EPROM with the Flexnet firmware on it is not an option, there is still additional equipment required to operate it. Radios are not an issue here (you still require a good one for 9600 bps operation), but the rest of the system is dramatically changed.

### 2.1 - Typical Setup

Flexnet can be implemented in two ways; one method involves the use of a PC running the Flexnet software. The other uses plug-in cards which perform the TNC functions, exclusive of the functions of a modem. Each method requires either a TNC operating in KISS mode, or a modem card. These modem cards are the same as, or very similar to the "Baycom" modem card.

#### 2.1.1. - Using PC-Flexnet

PC-Flexnet is primarily designed for end users, but can be pressed into node service if desired. There are a number of special requirements, however.

First the authors of Flexnet recommend a 286 or higher processor using MS-DOS 3.1, 5.0, or 6.22. DOS version 6.0 was not stable and caused problems. 200 Kb of memory are required to run the program itself, and additional memory is required for the end-user application, or the accompanying drivers for each node port. Additionally, a modem card, or a TNC operating in KISS is required for each port.

The PC implementation has a parameter file that is responsible for the operating parameters that can be set. Remember that most of the operating parameters are automatically set in accordance with existing operating conditions. Primarily, this file configures call-signs, SSIDs, and bps rates.

#### 2.1.2 - Using RMNC Flexnet

The most common implementation of Flexnet is the RMNC setup, and is said to be the preferred setup. This relies on a series of RMNC cards, one per node port. These cards are the functional equivalent of a TNC with node firmware in them, minus the modem. Because of this, a modem card or a TNC operating in KISS is required for each port.

These RMNC cards plug into a mother board specially designed for this purpose, along with a "reset card", a "Solo Master Card", and a "bus monitor" card.

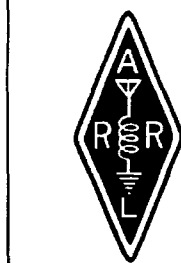
The Flexnet firmware is burned onto an EPROM found on the RMNC card, while connect texts and other configurable data is held in RAM. A battery backup of some sort is required to keep the memory alive, but can be omitted to cut costs. There are differing varieties of the RMNC cards, each having different clock speeds. It is presumed that cards with faster clock speeds will provide speedier operation and better data throughput.

Operation and configuration are done with the same command sequences in the PC and RMNC implementations of Flexnet, both are capable of remote sysoping.

## 3.0 - Practical Data

Now we have the basic idea of Flexnet, let's look at the real-world practical application of it.

#### 3.1.1. - How well does it work?



# Yellow Thunder Amateur Radio Club

WB9FDZ (Original Club Call)  
K9ODK (Robert L. Prine Memorial Call)

Raymond J. Matlosz, N9MLZ, Secretary  
450 West 2nd Street • Reedsburg, WI 53959



The November 3, 1998 meeting of the Yellow Thunder Amateur Radio Club, Inc. was called to order at 7:36 p.m. by club president Steve Schulze, N9UDO.

Minutes of the October 6 meeting were approved. Bill Klinkner, N9KXX gave the treasurers report.

Announcements: None

OLD BUSINESS: None

**NEW BUSINESS:** Discussion on sale of club generator. Motion made and seconded to sell the generator for \$500. A second motion was made and seconded to sell the generator for no less than \$250.00. SwapFest '99 Posters were distributed to the club members present. Discussion on meeting dates for 1999. It was decided to continue with meeting on the first Tuesday of the month. The minutes would be distributed by e-mail, as well as being published in BSSS and be posted on the club's web page.

Buck Night winner was Marvin Kaiser who was not present and therefore did not win.

Meeting adjourned at 8:28 p.m. followed by a

discussion on emergency government participation by Peter Sweeney and a tour of the new television studio in Baraboo by Steve Schulze.

discussion on emergency government participation by Peter Sweeney and a tour of the new television studio in Baraboo by Steve Schulze.

**NEXT MEETING:** Tuesday December 1, 1998 at 7:30 p.m. room 14, Baraboo Civic Center. Holiday party at the Hitching Post in Portage. Pre-dinner get together at 6:00 p.m., dinner at 7:00 p.m. Dues for 1999 are: \$18.00.

The following members and guest were present:

Michael Baker		Portage
George Gabay	N9QQR	New Lisbon
David Spearing	KB9CSW	Portage
Jim Paul	N9LKY	Baraboo
Chelsea Clasen		Merrimac
Steve Schulze	N9UDO	Baraboo
Joe Rowland	N9PRF	Portage
Thomas Harrison	N9PQJ	Reedsburg
Art Kleefisch	W9WSS	Baraboo
Peter Sweeney	WD9JIB	Reedsburg
Bill Klinkner	N9KXX	Sauk City
Anne Klinkner	N9PQL	Sauk City
Patrick Klinkner		Sauk City
Raymond Matlosz	W9MLZ	Reedsburg

## THE TEST POINT

(continued from page 3)

W5YI Group

Contact: Dave Ranney, N0AXL (612) 542-2553

Test Site: Eden Prairie Library  
479 Eden Prairie Drive  
Eden Prairie, MN

TESTING: Third Tuesday of the month 6:30 p.m.

SE Metro Area Radio Club (SEMARC)

Contact: Dave Harrell, K0BTE (612) 459-8678

Test Site: Cottage Grove fire Station  
8641 80th ST., S Cottage Grove, MN

TESTING: Third Saturday of the month, 9:00 a.m.

The times and places listed above are the usual time and place for each VE team. Occasionally, sessions are canceled or changed. It is a good idea to call ahead to confirm the test time and place.

This section of Badger State Smoke Signals is available to publicize your Volunteer Examiner Amateur Radio license examination schedules. Please send us your schedules of dates, times, and locations that you will be conducting examinations and we will include the information here. Be sure to include contact address and any other necessary requirements. Information should be sent to K9EN at the address shown on page 2.



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## 3.2 - Disadvantages

The prime disadvantage to this system is the cost of hardware, whether one implements it in PC form or RMNC form. Consider the cost of a 3-port RMNC node stack, in kit form. This would be approximately \$250-\$300. It also should be noted that these parts are quoted from a 1996 price list, and it changes with the currency exchange rate. Cost is even higher for 9600 bps operation. Another disadvantage is that TCP/IP traffic is limited and timing is complex when it comes to setting IRTT on TCP/IP interfaces. This is due to the fact that the AX.25 protocol is strictly observed, and the dynamics of hop-to-hop acknowledgement make datagram operation tricky to set up.

Another fly in the ointment is user adaptability. A lot of operators will have trouble with the lack of node aliases, as well as the command set. There are more options with Flexnet, and this takes some getting used to.

## 4.0 - Conclusions

The Flexnet system does what it is advertised to do - increase reliability of AX.25 links. It does so at a price, however, and there is some question as to methodology. The problem that Flexnet is trying to overcome is a problem that starts with the AX.25 protocol, yet it uses AX.25 in an attempt to cure it. The real problem is with AX.25 itself - it is hard to decode, and has no forward error correction built into the protocol.

Sooner or later, the AX.25 protocol should be replaced with something more reliable and customized for a radio environment. AX.25 was developed from the X.25 protocol - which was never intended to do more than simple data transfer and no networking was involved. AX.25 never really improved upon these shortcomings, truth be told.

And various networking schemes, including ROSE, Net/Rom, and Flexnet do not cure the real problem. So it makes little sense to invest a large amount of money into a system that is obsolete and error-prone, even if it works better in the short run.

The conclusion I have to come to is to wait and investigate other potential networking methods that do not rely on the AX.25 protocol. There are hams working on forward error correction in a packet radio environment, and in the next year we may well see these "hit the mainstream".

Submitted to the Wisconsin Amateur Packet Radio



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P. O. Box 102 South Milwaukee, WI 53172

### FOX CITIES HAMFEST

Starlite Club, Hwy. 55 north of Kaukauna  
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1912 Russett Ct., Apt. 7 • Appleton WI 54914  
(920) 993-0485  
EXAM INFO: Larry Siebers, KD9IA • (920) 759-1167  
HTTP://WWW.W9ZLAMP.ORG

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Glenn, AA9MT: 920-684-7096  
Red, N9GHE: 920-684-9097  
ManCoRad Radio Club • P. O. Box 204 • Manitowoc, WI 54221-0204

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Street, Stevens Point WI 54481.  
E-mail: maeiden@g2a.net

### Eau Amateur Radio Club HAMFEST Saturday, July 10, 1999

For Information Contact:  
ECARC  
P.O. Box 1867 Eau Claire, WI 54702-1867  
http://www.ecarc.org

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Swapfest sponsored by the Ozaukee Radio Club  
1702 Holly Lane, Grafton, WI 53024

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Steve Schulze, N9UDO (608) 356-2313/356-4777 http://www.thelox.com/~ssschulze/hamfest.htm  
Bill Klinkner, N9KXX (608) 643-6908/643-6453

### Red Cedar Repeater Association, Inc.

## AUCTION

February 23, 1999 • 7:00 p.m.  
American Legion Post 53 • 634 Water Street  
Eau Claire, WI  
CONTACT: Steve Hart, KA9OMC 715-665-2374  
E616 810th Ave. Knapp, WI 54749

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